

## Woods Hole Oceanographic Institution

# Cruise Planning

### AT 15-59

#### Ship

R/V *Atlantis*

#### Vehicles

PI: **Lisa Levin**

HOV *Alvin*

#### Cruise Party

PI: **Lisa Levin**

Lisa Levin: Chief Scientist, Principal Investigator

#### Departure: Jan 6, 2010

PI: **Lisa Levin**

Puntarenas, Costa Rica

#### Arrival: Jan 13, 2010

PI: **Lisa Levin**

Puntarenas, Costa Rica

#### Supporting documentation:

#### Operations Area

PI: **Lisa Levin**

Costa Rica

Lat/Lon: 80° 0.0' N / 84° 18.75' W

Depth Range: 700 / 1900

Will the vessel be operating within 200 NM of a foreign country? no

#### Science Objectives

PI: **Lisa Levin**

- Recover colonization experiments on Mound 12 (carbonate, wood, tubeworms, shells). Process these at sea.
- Background collections of wood, active carbonate (especially dolomite) rock and biotic (mussel, tube) substrates
- Characterization of chemical regimes at colonization sites
- Possible Archaea C fixation/ production experiments with  $^{13}\text{C}$  or  $^{15}\text{N}_2$  using background or colonizer fauna

#### Science Activities

PI: **Lisa Levin**

- ALVIN CTD and water sampling at active and inactive seep sites having colonization experiments.
  - Coring seep (mat, clam) sediments in specific locations across a range of O<sub>2</sub> levels if time.
  - Follow-up collection of new species (including yeti crabs, foraminifera, ciliates, mussels, clams, crustaceans, annelids etc)
  - \*collection of microbial mat on rocks
  - \* Revisit Jaco scarp.. sample tubeworm bushes and other fauna
- Night Operations:
- \* Nighttime off seep CTD casts with Rosette to examine ENSO signals and compare to 2009
  - \* Multibeam mapping as needed (pre dive)

## Additional Info

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### PI: Lisa Levin

Pre-cruise Planning Meeting: Teleconference/Visit WHOI

## Stations:

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### PI: Lisa Levin

#### Station 1

Distance: 70.2

Days: 3

Latitude:

Longitude:

#### Station 2

Distance: 32.4

Days: 3

Latitude:

Longitude:

- added Lat: , Lon: , Distance: 70.2, Days: 3

added Lat: , Lon: , Distance: 32.4, Days: 3 on Nov 3, 2009 3:45 PM by Elizabeth A. Caporelli

## Funding

### PI: Lisa Levin

Funding Agency: NSF

Grant or contract number:

## Scientific Instrumentation for HOV *Atlantis*

## Shipboard Equipment

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### PI: Lisa Levin

Bathymetry System 12 kHz

Bathymetry System 3.5 kHz

ADCP 75 kHz

Deionized Water System

Fume Hood

12 kHz Pinger for Wire Use

## CTD/Water Sampling

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### PI: Lisa Levin

911+ Rosette 24-position, 10-liter bottle Rosette with dual T/C sensors

## Critical CTD Sensors

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### PI: Lisa Levin

## Sediment Sampling

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### PI: Lisa Levin

Box corer

## Sample Storage

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### PI: Lisa Levin

Freezer -85°C 25 cu. ft.

Scientific Walk-in Freezer

Refrigerator 8.6 cu. ft.

Freezer -70°C 3.2 cu. ft. ea.

## Navigation

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Describe deployment method and quantity:

Spill kits are on board. All hazardous materials will be stored in the chem van during transits. MSDS forms are on board. Hazardous materials will be removed from the ship when it docks in San Diego

## Additional Information

**PI: Lisa Levin**

Brief operations description or comments:

### Scientific Instrumentation for HOV *Alvin*

What type of samples do you expect to collect?

## Site Survey

**PI: Lisa Levin**

Will you provide detailed charts of the work area(s)?	no
If no, will you need <i>R/V Atlantis</i> to generate maps of the work area(s)?	no
Will you need post-dive maps of the work area generated?	no

## Navigation

**PI: Lisa Levin**

Will you be using Long Base Line (LBL) navigation?	no
How many nets?	0
How many transponders?	0
Will you be using Ultra-short baseline (USBL) navigation for other than <i>Alvin</i> operations?	no

## Vehicle Equipment

**PI: Lisa Levin**

Push corers ( 12 pack rack)  
 Low temperature probe  
 Scoop nets  
 Search sonar  
 Small capacity slurp samplers  
 Large capacity slurp samplers: Single Chamber  
 Bio collection boxes: 12 x 12 x 12  
 Bio collection boxes: 12 x 12 x 24

## Elevators

**PI: Lisa Levin**

Will you be using elevators to transport samples to the surface?	no
If yes, how many would you anticipate?	

## Other Equipment

**PI: Lisa Levin**

Other vehicle-related equipment (list):

Additional Bio boxes supplied by PIs

Will other science equipment to be installed on vehicle?	no
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Please specify size, water & air weight, power/data logging requirements and connections required where possible:

Electronic equipment used in the *Alvin* personnel sphere:

## Hazardous Material

**PI: Lisa Levin**

Will hazardous material be utilized?	no
Describe deployment method and quantity:	

## Additional Information

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### PI: Lisa Levin

Brief operations description or comments:

Running seawater required on deck

Walk in cold room and walk in freezer required

Access to 2-3 refrigerators required... in main lab, chem lab and back (hydro) lab

NOTE: i will need to edit this following comments from co PIs but can't find a save button so I will submit and send revisions later. Unsure about radioisotope van (checking with Orphan)

Navy Clearance:

## Checklist & Notes

### Checklist

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U.S. Customs Form: no

Diplomatic Clearance: yes

Date Submitted:

Date Approved:

Agent Information:

Countries:

Notes:

Isotope Use no

Approval:

Isotope Notes:

SCUBA Diving: no

### Checklist

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SSSG Tech:

TBD

Questions? Troubles? Please email [cruiseplanning@whoi.edu](mailto:cruiseplanning@whoi.edu)