Welcome to Live from IPY!

With Graduate Student, Emily Davenport aboard the USCGC Healy in the Bering Sea

Thursday, 1 May 2008

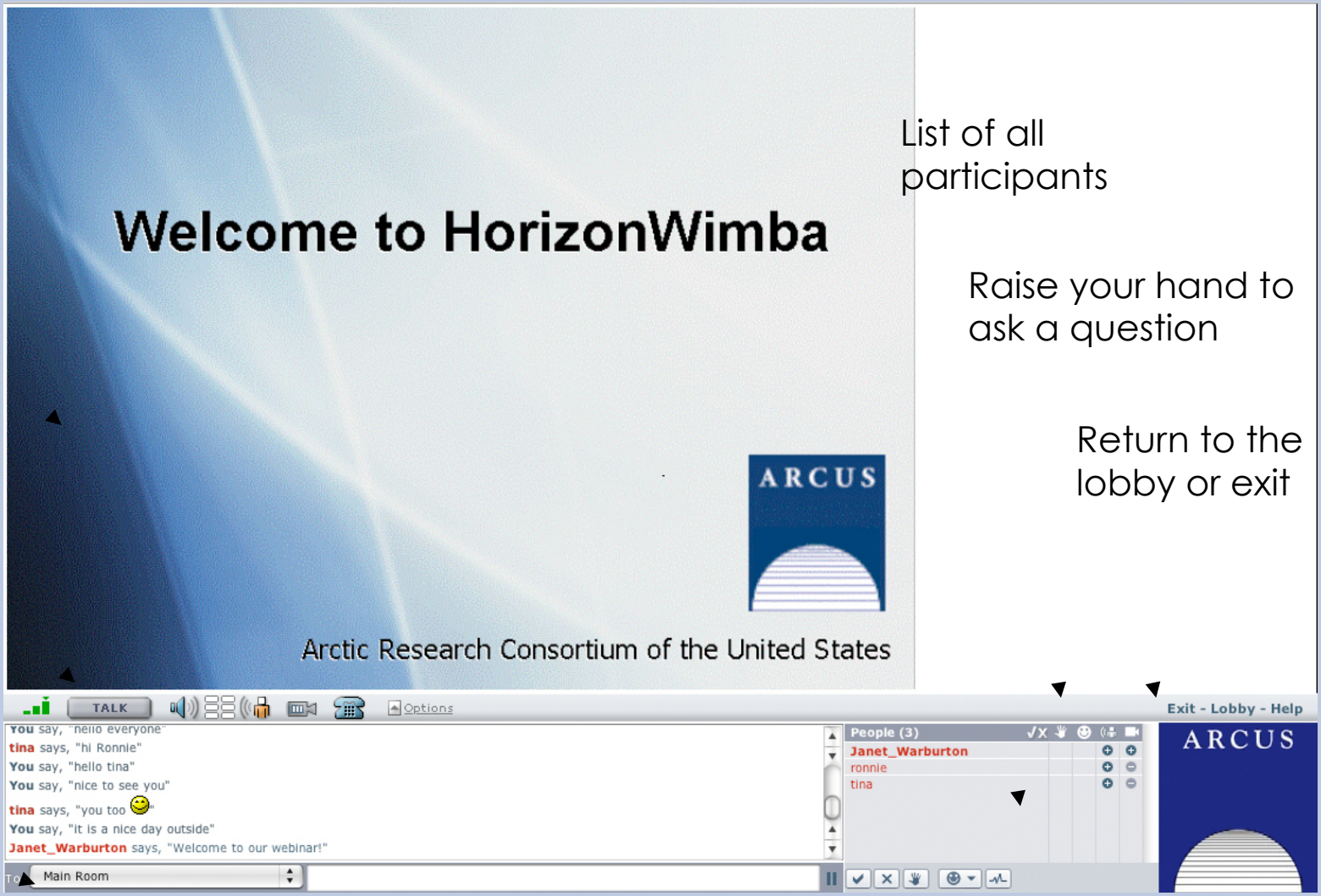
10:45 am ADT [8:45 AM HDT, 11:45 AM PDT, 12:45 PM MDT, 1:45 PM CDT, 2:45 PM EDT]

Photo by Shawn Dahle, Hly0701

Slides will be shown here

If using VOIP, press here to talk

'Chat' with one person or the entire group



List of all participants

Raise your hand to ask a question

Return to the lobby or exit

Please note: Today's event will be recorded and archived at www.polartrec.com.

What is PolarTREC?

PolarTREC is a professional development experience in which K-12 teachers are paired with researchers in authentic polar research experiences.

In the next three years 36 teachers from around the United States will join scientists in the Arctic and Antarctic in celebration of the International Polar Year!

www.polartrec.com

The PolarTREC Team

Wendy Warnick
PolarTREC PI
Executive Director

Helen Wiggins
Program Coordinator

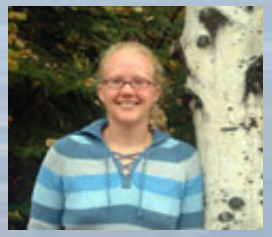
Janet Warburton
PolarTREC
Project Manager

Kristin Timm
PolarTREC
Project Manager

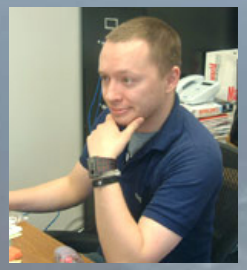
Katie Breen
PolarTREC
Project Manager

Ronnie Owens
Web Developer

Ben Wade
Web Developer



Tina Buxbaum
Electronic Media
Project Manager



Zeb Polly
Systems Administrator

Joed Polly
Video Production

…with help from the entire staff at ARCUS

www.polartrec.com
Bering Sea Benthic Studies

International Polar Year (IPY)
2007-2009

The International Polar Year (2007-2009) is an exciting scientific campaign focusing on the world's polar regions!

IPY is a time for discovery, science, learning, and awareness about the polar regions with activities for youth, scientists, and the public.

www.ipy.org

Who are we talking with today?

Graduate Student

Emily Davenport
Western Washington University

Chief Scientist

Carin Ashjian
Woods Hole Oceanographic Institute

Researcher

David Shull
Western Washington University

Researcher

Al Devol
University of Washington

Marine Science Officer

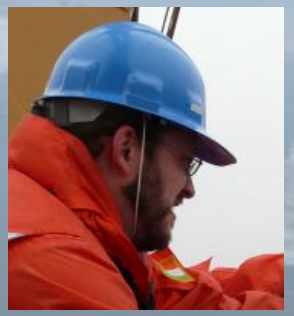
Stephen Elliot
USCGC Healy

Researcher

Evelyn Sherr
Oregon State University

Researcher

Jonathan Whitefield
Bermuda Institute of Ocean Sciences



Researcher

Pat Kelly
University of Rhode Island

www.polartrec.com
Bering Sea Benthic Studies

Bering Sea Benthic Studies

Goal of the project:
Scientists will conduct sampling along a series of transects over the eastern Bering Sea. The scientists onboard will be using a variety of techniques to measure the productivity of the Bering Sea ecosystem. Measurements include temperature, salinity and nutrient content of the sea water, changes in sea ice cover, and the concentration of nutrients used and released by phytoplankton. These measurements will give scientists an indication of the current status of the Bering Sea ecosystem and any potential changes occurring in the marine environment.

Dates:

27 March – 6 May 2008

Location:

Aboard the USCGC Healy, in the Bering Sea

Healy Location

(Approximate)


RUSSIA
ARCTIC OCEAN
Norwegian Sea
Chukchi Sea
Arctic Circle
GREENLAND
ICELAND
Reykjavik
Bering Sea
Beaufort Sea
Baffin Bay
Yukon
Anchorage
Godthab
Gulf of Alaska
Whitehorse
Mackenzie
Great Bear Lake
Iqaluit
Yellowknife
Juneau
Great Slave Lake
CANADA
Hudson Bay
St. John's
Edmonton
Lake Winnipeg
Victoria
Vancouver
Calgary
Regina
Charlottetown
Seattle
Spokane
Winnipeg
Quebec
Fredericton
Vancouver
Portland
Helena
Lake Superior
Ottawa
Montreal
Halifax
Boise
Bismarck
Missouri
Lake Huron
Lake Ontario
Augusta
Concord
St. Paul
Minneapolis
Toronto
Boston
Milwaukee
Hartford
Providence
Buffalo
Salt Lake City
Cheyenne
Chicago
Detroit
Cleveland
New York
Provo
Omaha
Philadelphia
San Francisco
Oakland
Boulder
Pittsburgh
Baltimore
Indianapolis
Dayton
Las Vegas
Denver
Kansas City
Cincinnati
Washington D. C.
Richmond
Norfolk
Colorado
St. Louis
Ohio
Louisville
U. S. A.
Los Angeles
Santa Fe
Oklahoma City
Nashville
Charlotte
PACIFIC OCEAN
San Diego
Phoenix
Memphis
Columbia
Little Rock
Mexicali
Birmingham
Atlanta
ATLANTIC OCEAN
Dallas
Jackson
Tallahassee
Jacksonville
Hermosillo
Austin
Baton Rouge
Chihuahua
San Antonio
New Orleans
Orlando
MEXICO
Houston
Tampa
West Palm Beach
Rio Grande
Nassau
Tropic of Cancer
Monterrey
Miami
Culiacan
Gulf of Mexico
THE BAHAMAS
La Paz
Durango
Ciudad Victoria
Havana
PUERTO RICO
Zacatecas
San Luis Potosi
CUBA
Tepic
Leon
Merida
Guadalajara
Queretaro
Campeche
DOMINICAN REPUPLIC
HAITI
Morelia
Colima
Toluca
Mexico City
Chetumal
JAMAICA
Belize City
BELIZE
Chilpancingo
Villahermosa
Caribbean Sea
Belmopan
Oaxaca
HONDURAS
GUATEMALA
Guatemala
Tegucigalpa
Caracas
San Salvador
NICARAGUA
EL SALVADOR
Managua
VENEZUELA
San Jose
Colon
Panama
COSTA RICA
PANAMA
COLOMBIA
0
1000 Miles
0
1000 KM

Stephen Elliot
Marine Science Officer


USCGC
HEALY
20
• 30,000 Horsepower
• 17 Knot Max Speed
• 16,000 Long Tons
• About 90 Crewmembers
• Up to 50 Scientists
•Ability to Winter Over

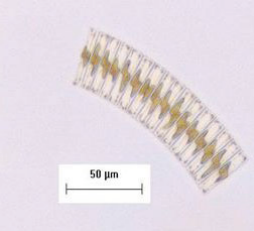

91

USCGC Healy Facts:
Length: 420 Feet (128 meters)
Width: 82 Feet (25 meters)
Draft: 29 Feet (9.1 meters)

Cruising Speed: 12.5 knots
Icebreaking: 4.5 feet at 3 knots

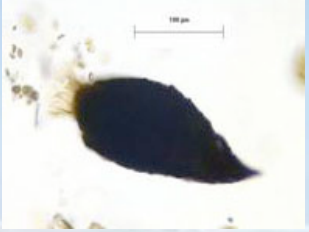
Homeport: Seattle, Washington
Captain: Ted Lindström

The Planktonic Food Web



Phytoplankton and
Ice Algae
(e.g., diatoms)

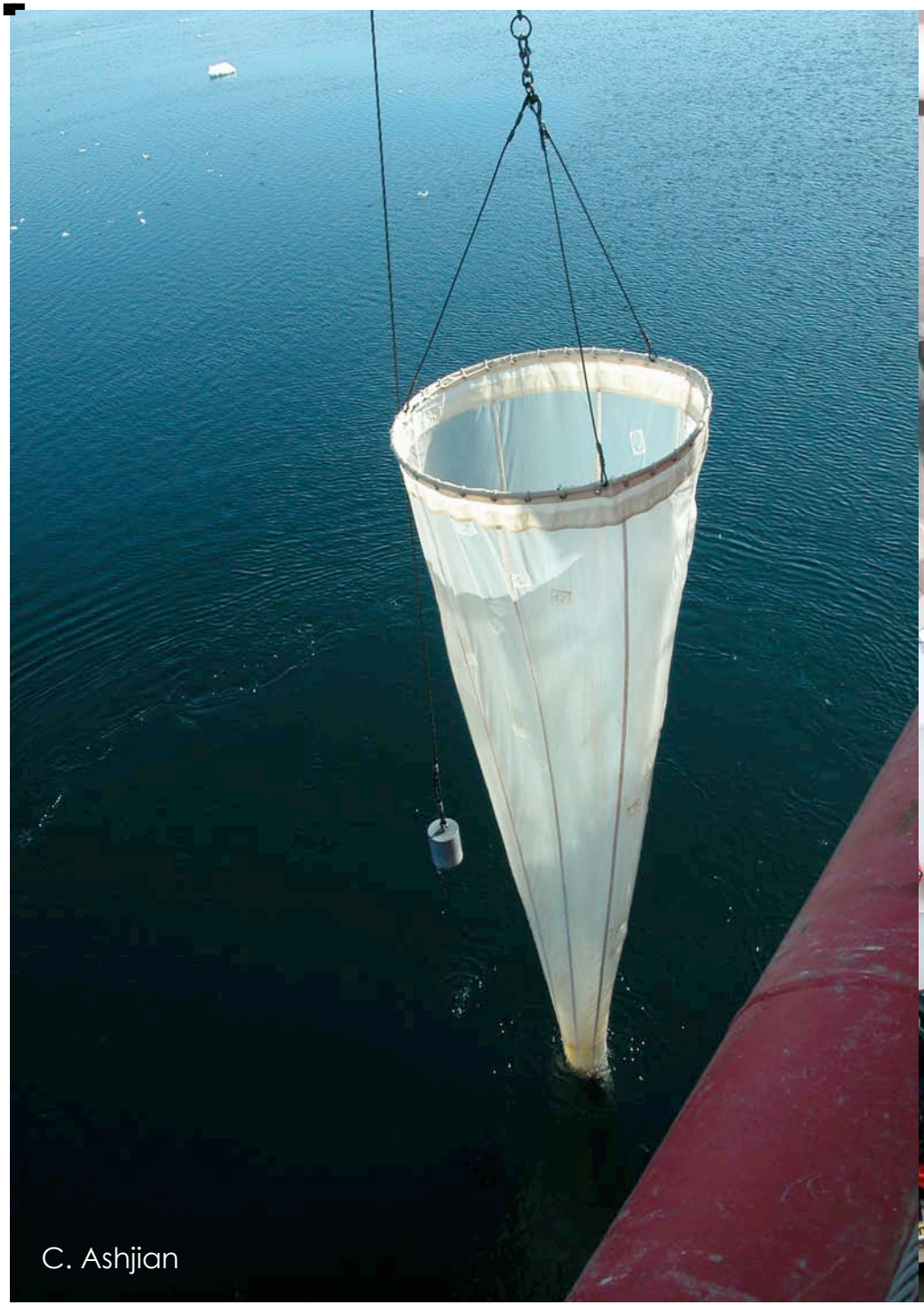
- Microzooplankton
(e.g.,protists)



- Mesozooplankton
(e.g. copepods, krill)

- Fish, whales, birds, larger zooplankton

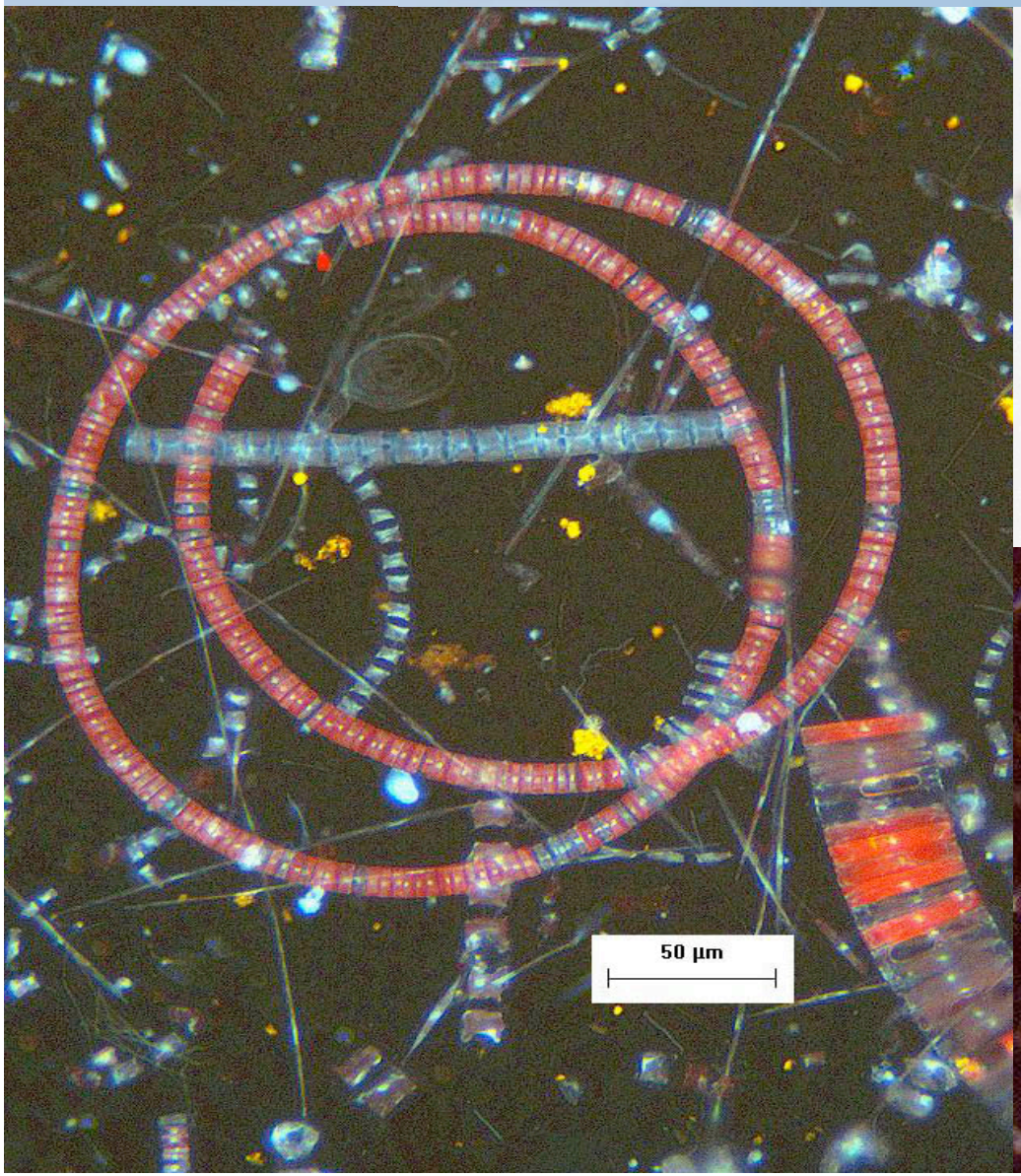
Carin Ashjian and Evelyn Sherr



Putting incubation bottles on plankton wheel

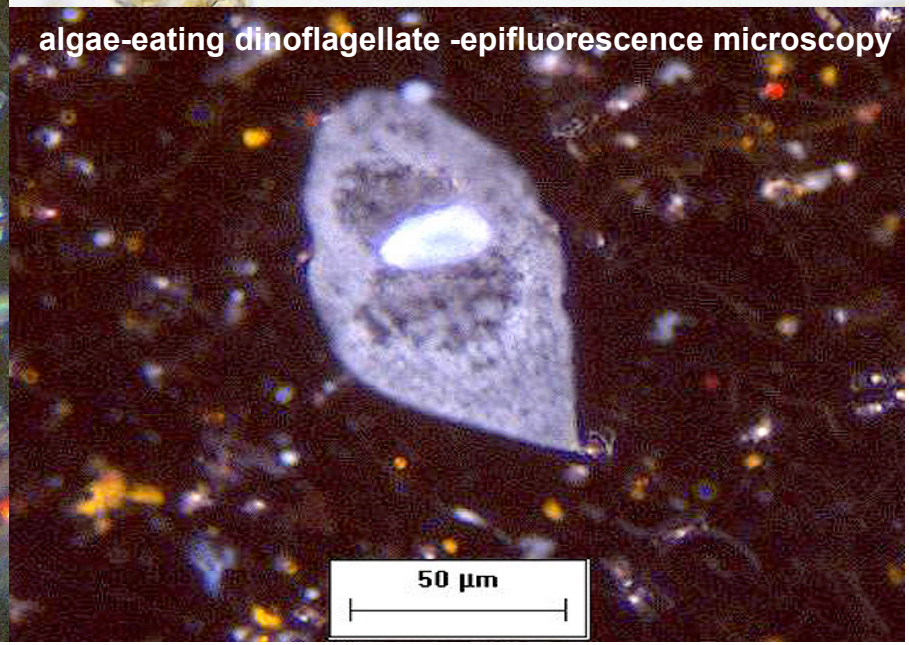
Mixed Species of Algae

epifluorescence microscopy



algae-eating dinoflagellate –light microscopy

algae-eating dinoflagellate -epifluorescence microscopy



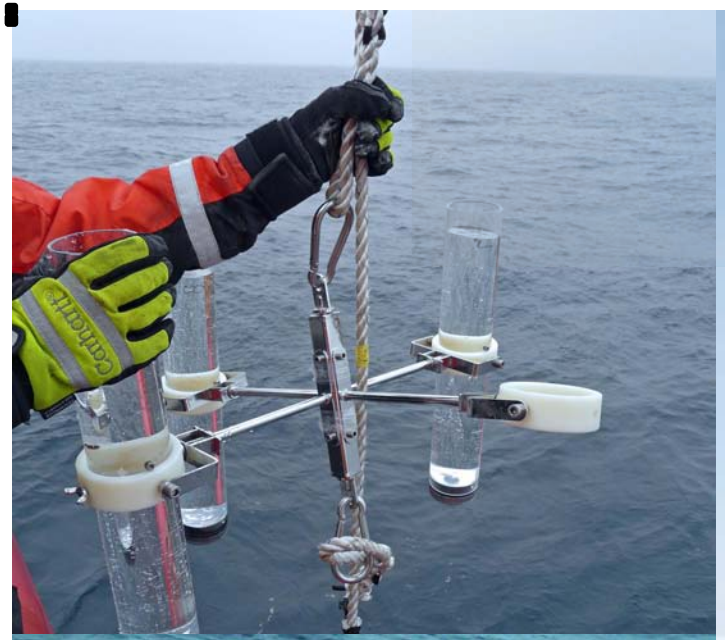
Who are we?

- Pat Kelly
  - URI / GSO
  - Sediment traps, small volume Thorium, Radium

- Jonathan Whitefield
  - BIOS / BATS
  - C14 production
  - Only British guy on cruise!

C14 production

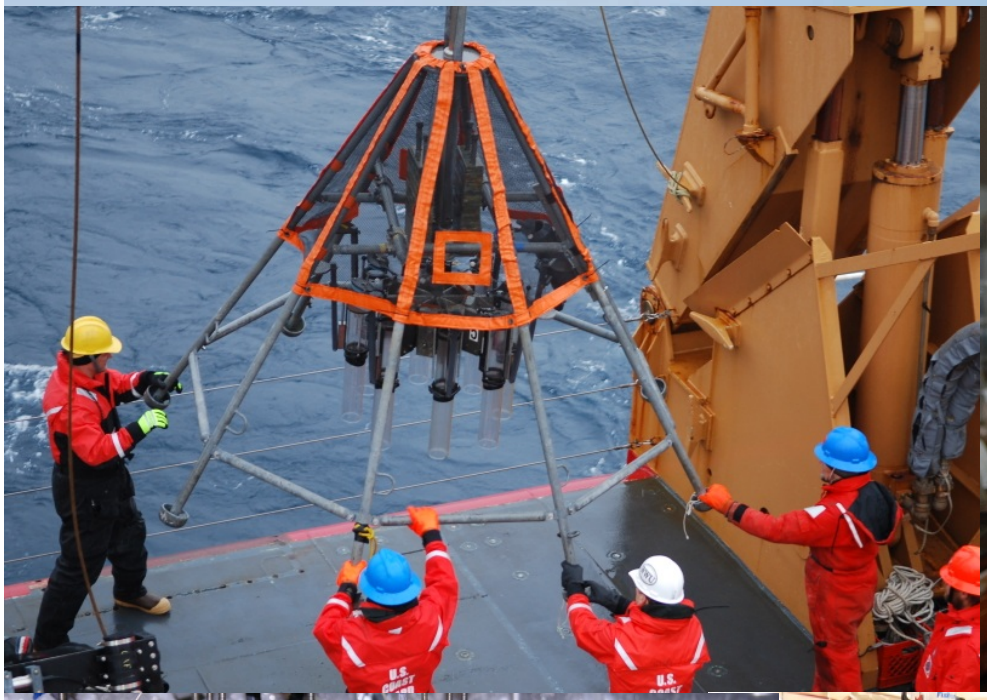
- Add radioactive carbon to sample
- Incubate for 24 hours
- Filter known volume
- Record radioactivity
- Convert to amount of Carbon per day
- Less radiation than a lead crystal glass!

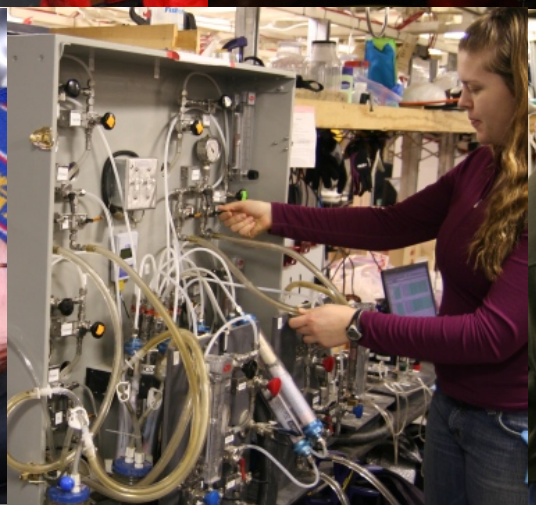


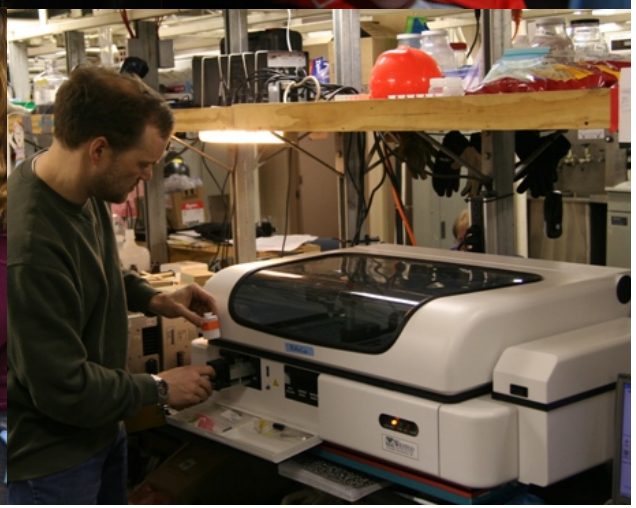
Sediment Traps

- 5 depths, 4 traps at each depth
- Deployed for 24 hours
- Sediment naturally falls in to traps
- Brine (super salty water) is more dense
- Recovered by small boat

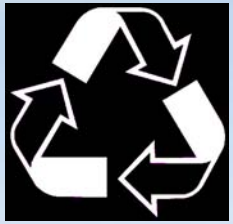
Studying Bering Sea Sediments



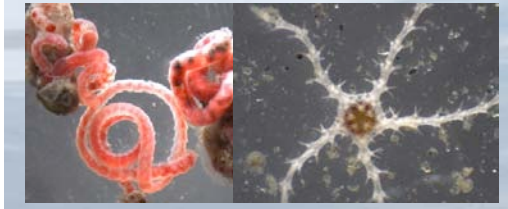




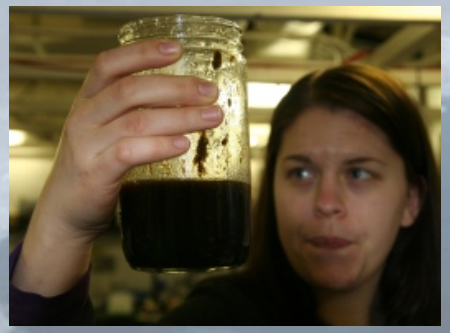
Studying Bering Sea Sediments



- Sediments: Bering Sea's recycling center



- Animals and microbes in sediment receive food from overlying water



- Nutrients are released into the water, increasing productivity

Check out and register for upcoming events!

Watch for additional events at: www.polartrec.com

Thank You!

For more information, please visit www.polartrec.com

Or Call 907-474-1600

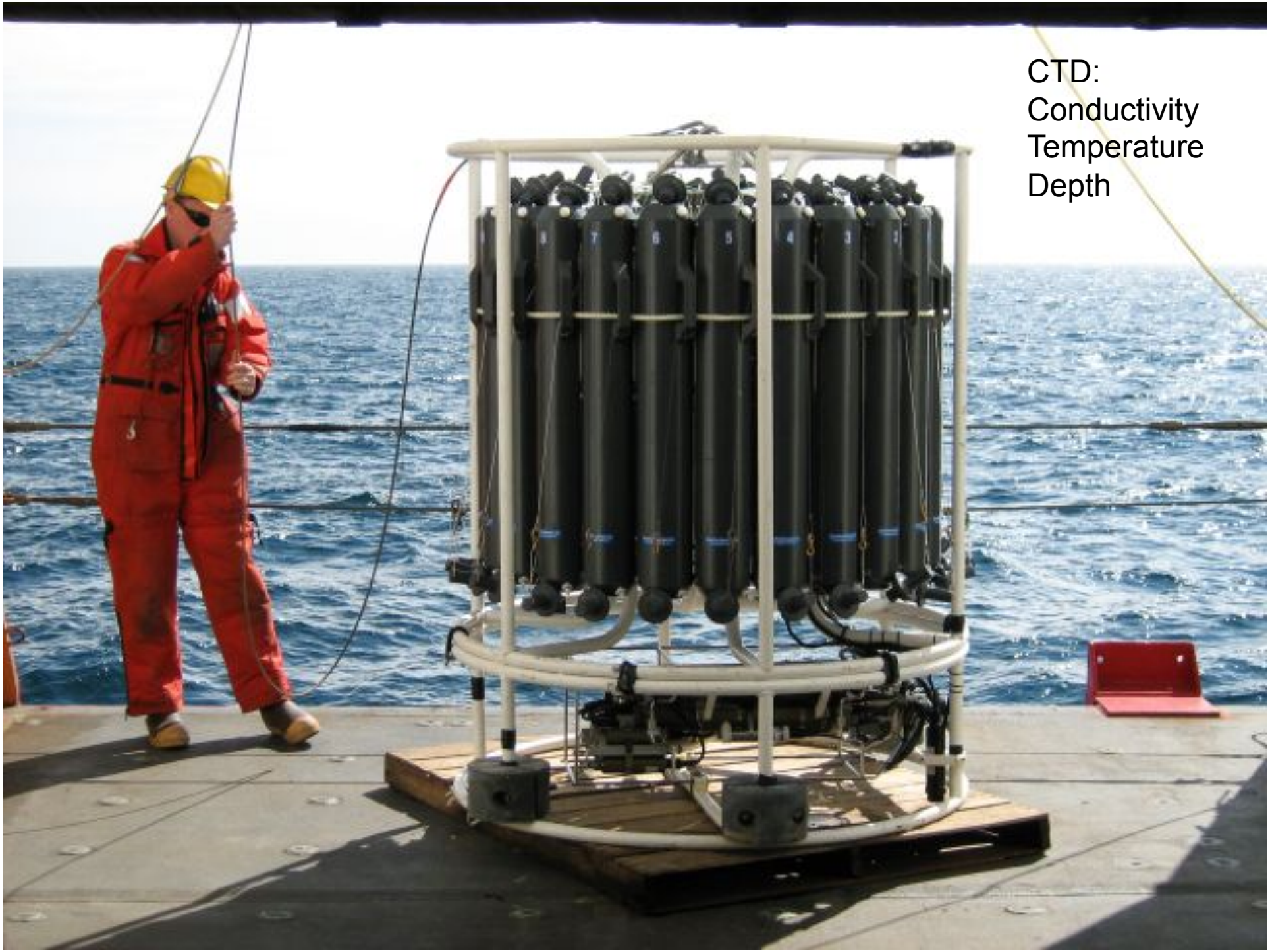
Email: infr@polartrec.com

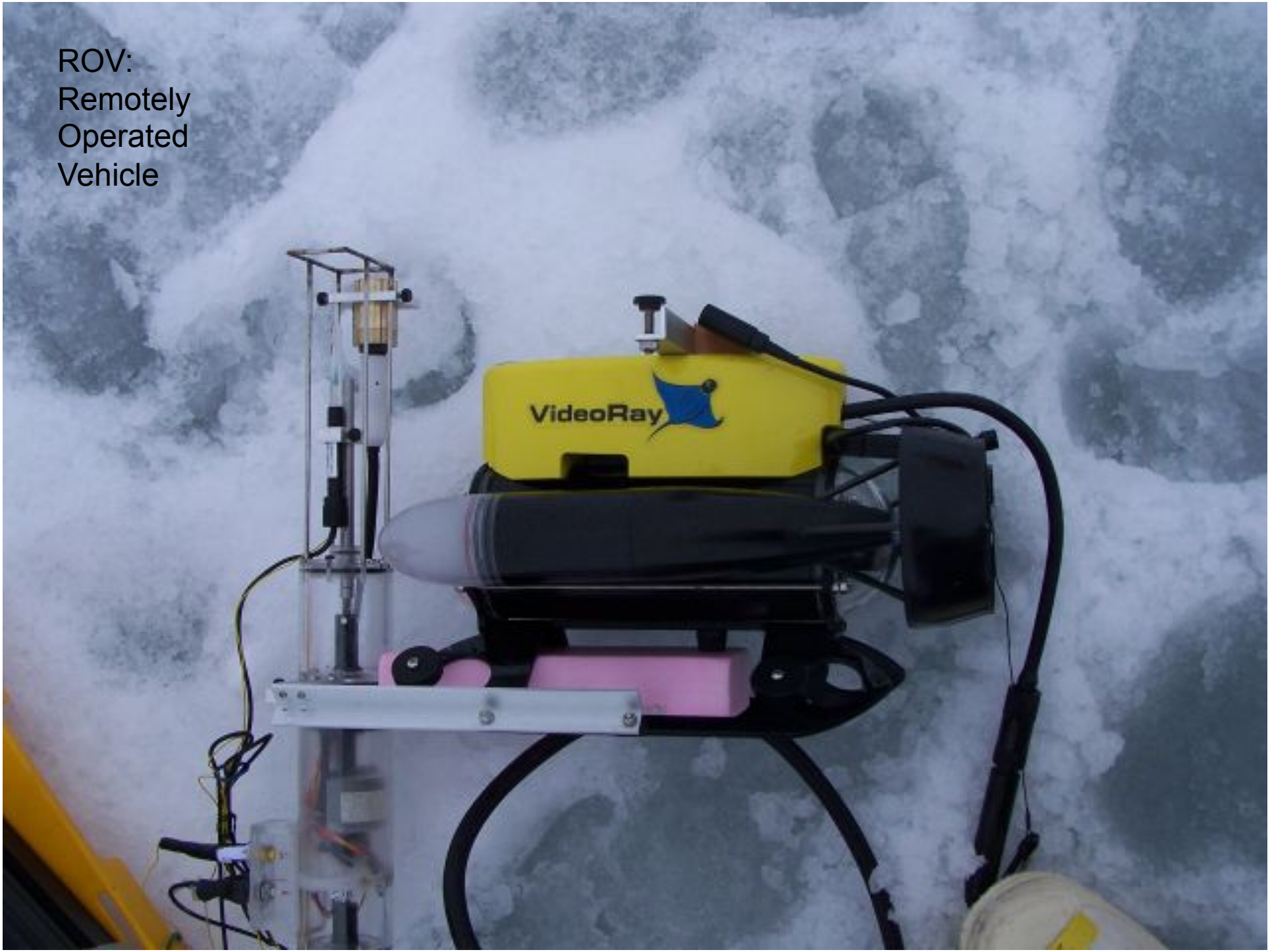
INTERNATIONAL POLAR YEAR 2007-2008

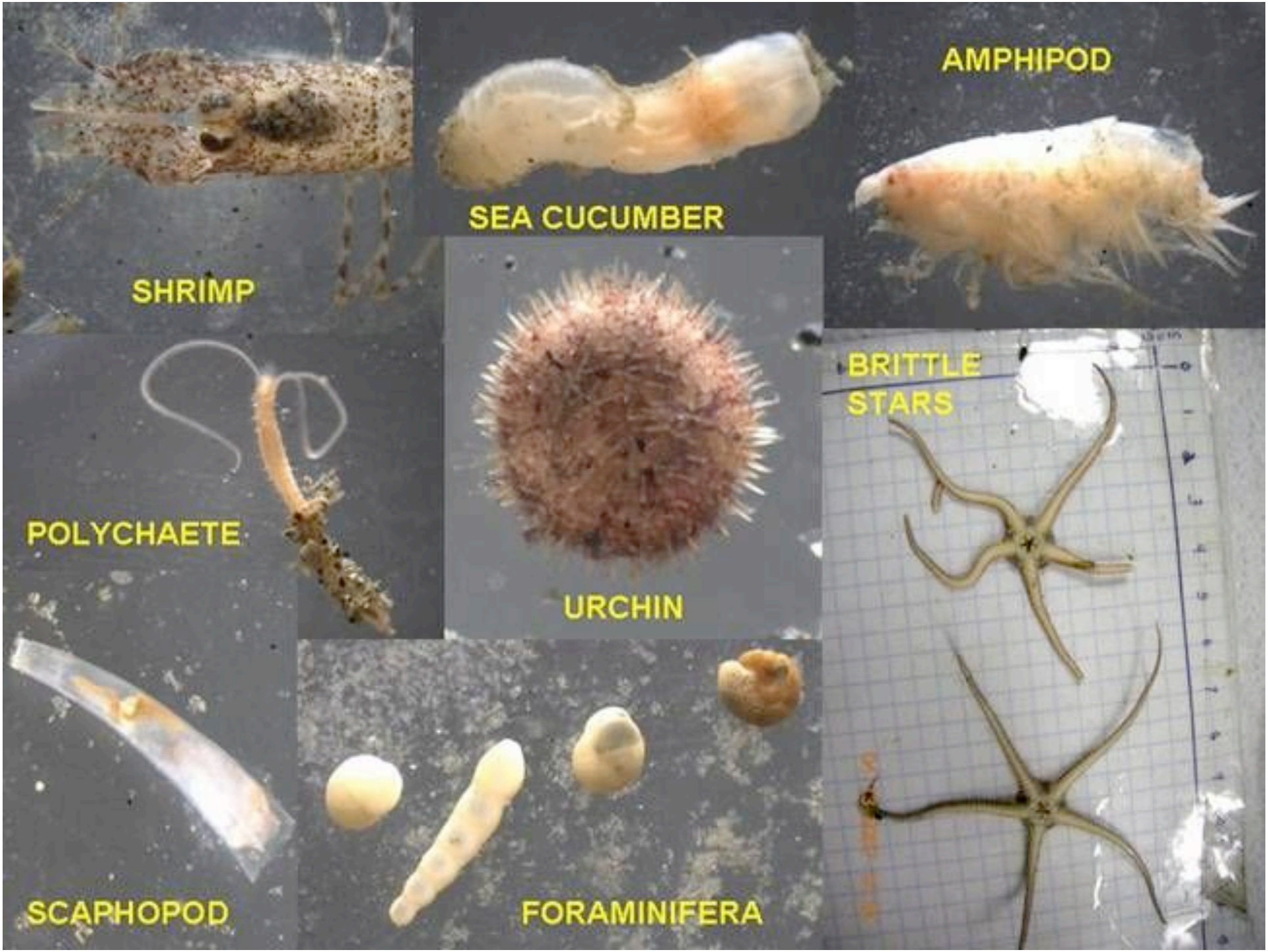
NSF

ARCUS

Multicorer and Sediment Cores (right)


CTD:
Conductivity
Temperature
Depth


ROV:
Remotely
Operated
Vehicle
VideoRay


SHRIMP
SEA CUCUMBER
AMPHIPOD
POLYCHAETE
URCHIN
BRITTLE STARS
SCAPHOPOD
FORAMINIFERA