# Institute of Marine & Environmental Technology (IMET)


**15,050 $m^2$; 42 research labs; 1,858 $m^2$ "wet" facility**

# IMET

**IMET is a joint University System of Maryland Research Institute:**

University of Maryland Medical School

UNIVERSITY of MARYLAND
THE FOUNDING CAMPUS

University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE

University of Maryland Baltimore County

UMBC
AN HONORS UNIVERSITY IN MARYLAND

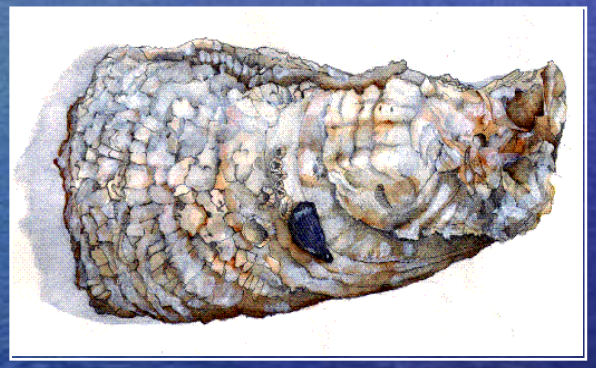
- Sustainable aquaculture
- Marine bioenergy
- Biomedicine
- Sensor development
- Environmental remediation
- Developmental biology
- Molecular and cellular systems

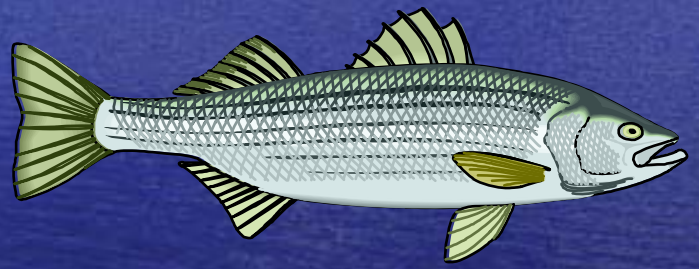
# IMET Mission

- Protection and restoration of coastal marine systems
- Sustainable use of marine resources
- Improvement of human health

# Sustainable Aquaculture & Fisheries

**Studying shellfish and finfish of commercial importance; improving fisheries, seafood and algal production methods**





**Basic and applied studies on life cycle and physiology to mass production: from the bench to the industry**

- Recirculating aquaculture systems
- Sustainable nutrition
- Molecular studies of reproduction/growth
- Population genetics of fish
- Immunology
- Disease control

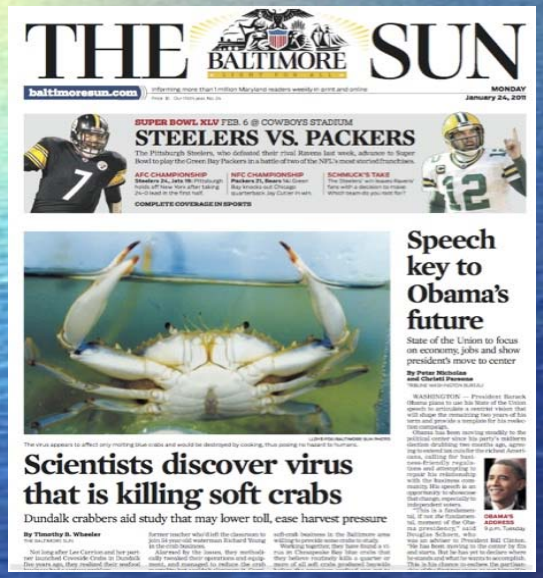
# Environmental Systems Biology

**Developing environmentally sustainable technologies for remediating environmental contaminants**


- Bioconversion of fish waste into biogas
- *In situ* microbial bioaugmentation for PCBs in sediments
- Symbiosis between microbes & animals
- Biofilm formation

# Model Systems & Developmental Biology

- Development of sensing and bioremediation technologies to identify/monitor/remediate pollutants, toxins and pathogens.
- Oceans and Human Health – emerging interest


THE BALTIMORE SUN

baltimoresun.com

MONDAY
January 24, 2011

SUPER BOWL XLV FEB. 6 @ COWBOYS STADIUM

STEELERS VS. PACKERS

The Pittsburgh Steelers, who defeated their rival Ravens last week, advance to Super Bowl to play the Green Bay Packers in a battle of two of the NFL's most storied franchises.

AFC CHAMPIONSHIP

NFC CHAMPIONSHIP

SCHMUCK'S TAKE

COMPLETE COVERAGE IN SPORTS

Speech key to Obama's future

State of the Union to focus on economy, jobs and show president's move to center

By Peter Nicholas and Christi Parsons

WASHINGTON — President Barack Obama plans to use his State of the Union speech to articulate a central vision that will shape the remaining two years of his term and provide a template for his reelection campaign.

Scientists discover virus that is killing soft crabs

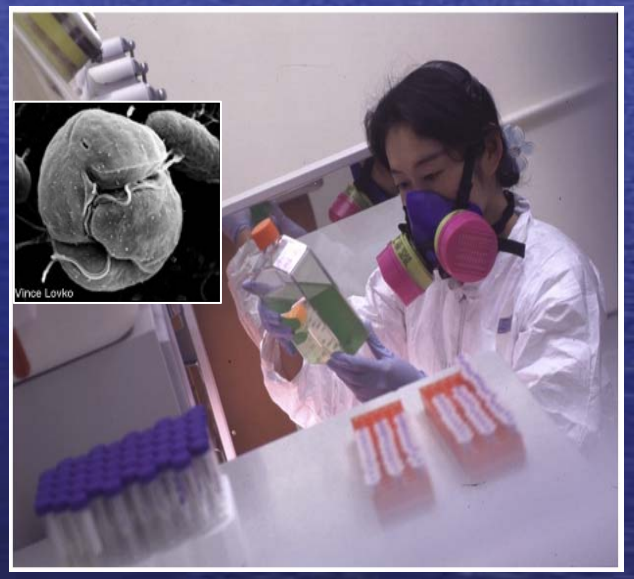
Dundalk crabbers aid study that may lower toll, ease harvest pressure

By Timothy B. Wheeler

OBAMA'S ADDRESS

New pathogens

Massive fish kills

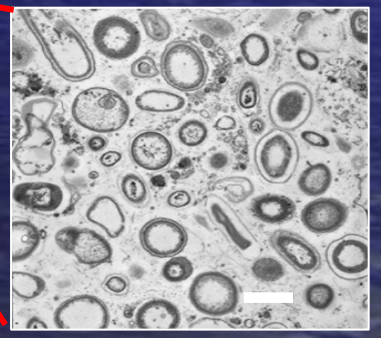



Harmful algal blooms

- Host –parasite interactions
- *Developmental studies in zebrafish*
- Immunity & cellular recognition in invertabrates & fish
- Microbial models for disease processes

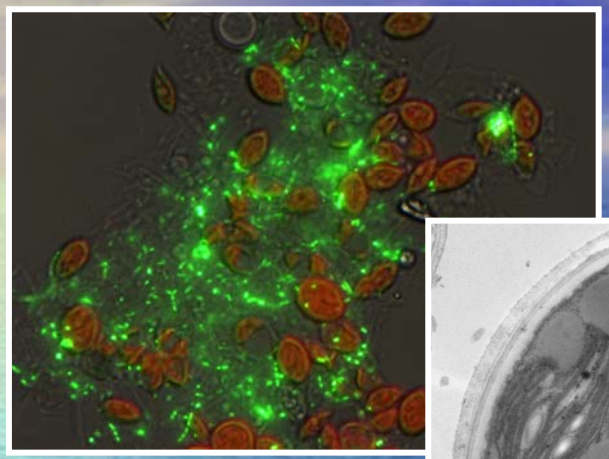
# Marine Natural Products & Biomedicine

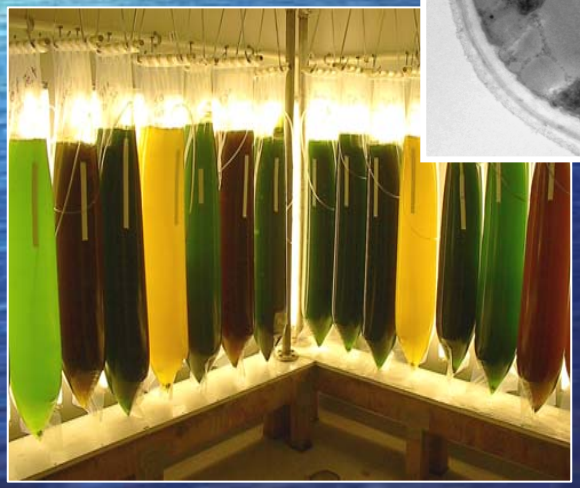
**Studying compounds with pharmaceutical and industrial potential produced by marine organisms**

- **Microbiology-Molecular Biology-"AquaPharming"**

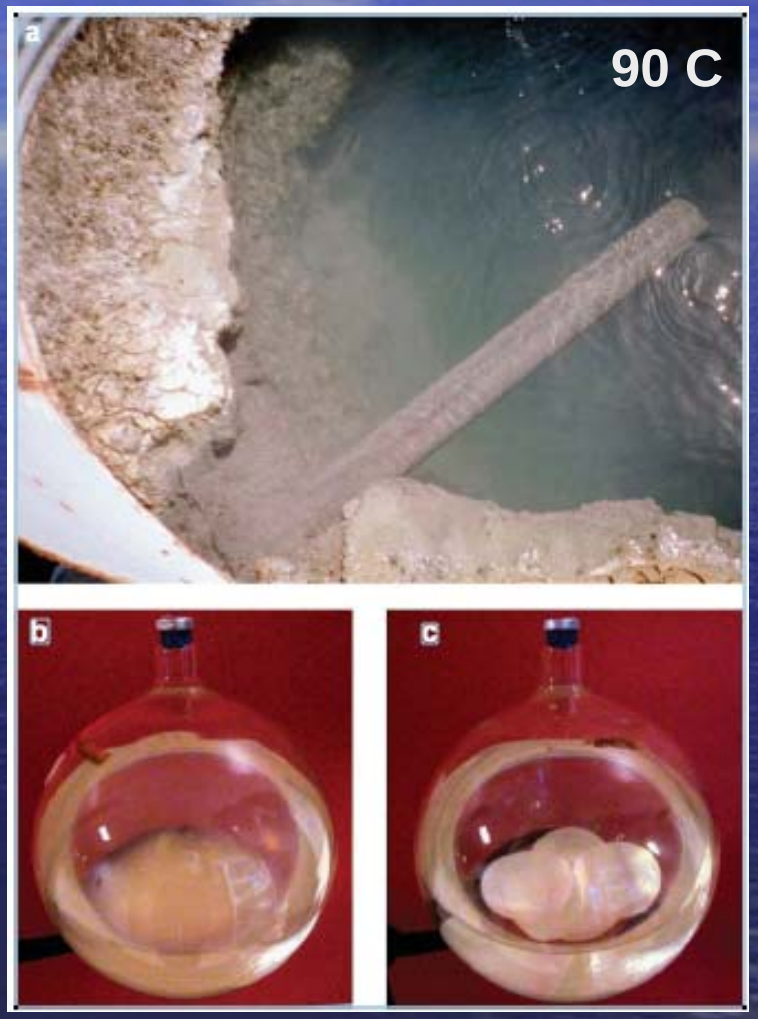
# Marine Bioenergy





Oil bodies

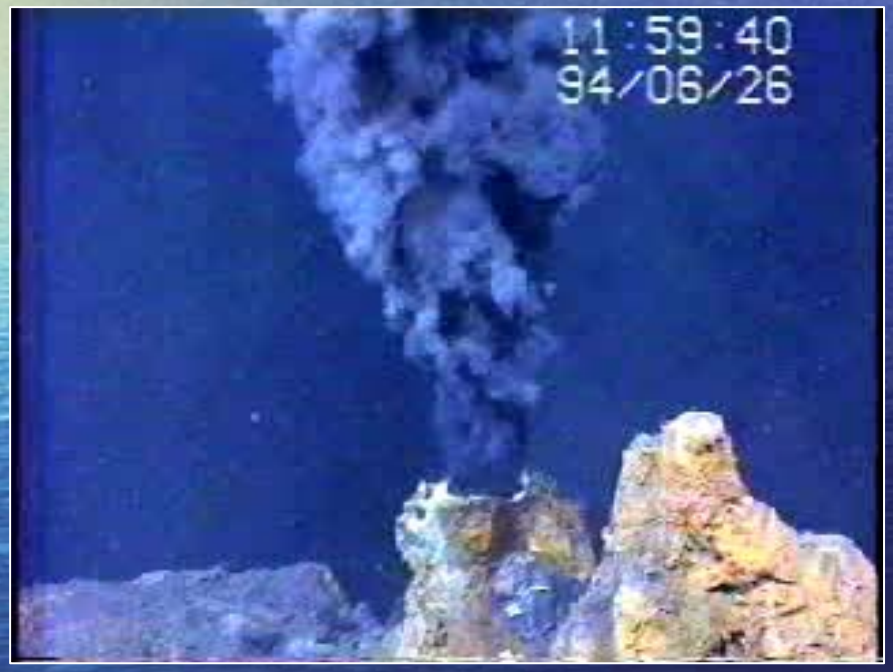
Algal Biofuels




Hyperthermophilic Cellulases

# Extremophile Biology & Biotechnology

## Origin of life, bio-products and processes, astrobiology




- thermophiles (to 121°C)
- piezophiles (to 800 atm.)
- psychrophiles (to -15°C)

- halophiles (to 5.2M)
- acidophiles (to pH=0)

# Education and Outreach Programs

- K-12, undergraduate, graduate, professional education and outreach programs that reflect IMET's research

SciTEC Program, Towson University


UNIVERSITY SYSTEM OF MARYLAND
IMET
Institute of Marine and Environmental Technology
701