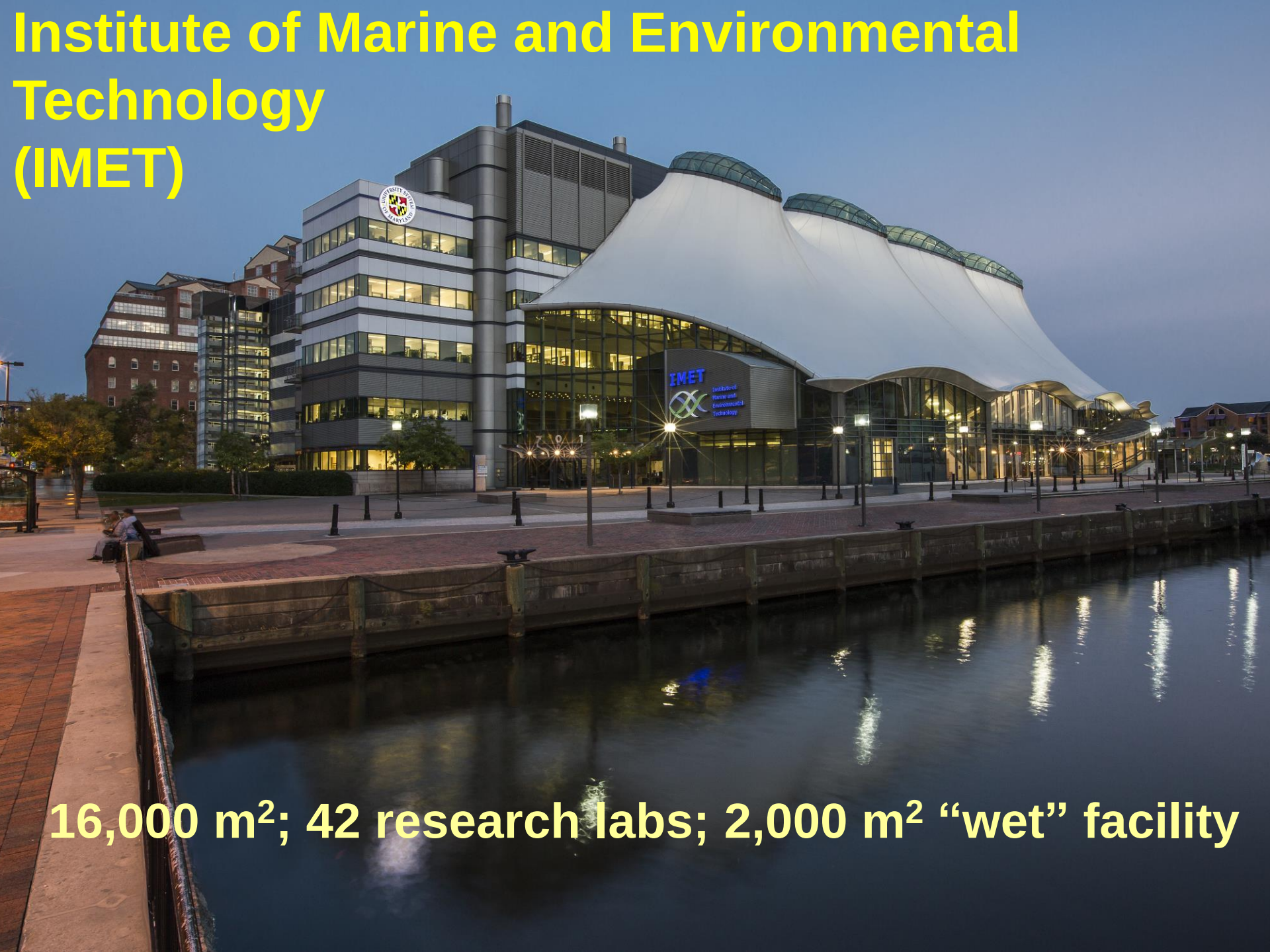
Institute of Marine and Environmental Technology (IMET)



16,000 m^2; 42 research labs; 2,000 m^2 “wet” facility

IMET Mission

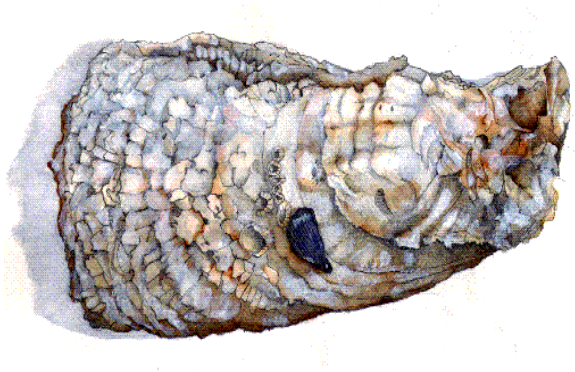
- protection and restoration of coastal marine systems
- sustainable use of marine resources
- improvement of human health

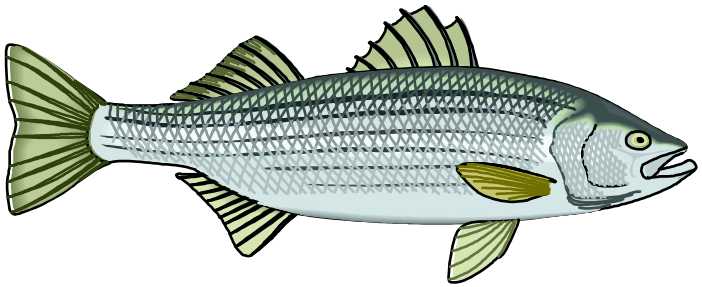
IMET is a joint University System of Maryland Research Inst:

University of Maryland Baltimore (SoM)
University of Maryland Baltimore County (UMBC)
Univ. Maryland Center for Environmental Science (UMCES)

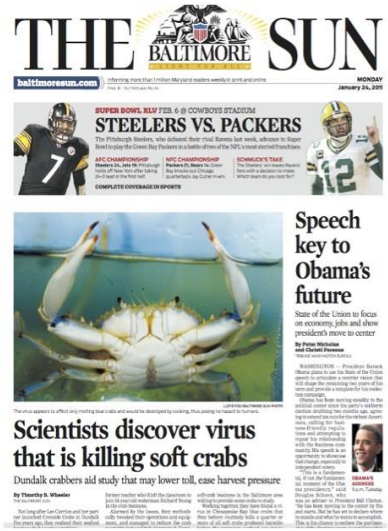
Sustainable Aquaculture and Fisheries

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





Reproduction, development, growth, nutrition, immunology, disease control…



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

Steelers 24, Jets 19: Pittsburgh holds off New York after taking 24-0 lead in the first half.

NFC CHAMPIONSHIP

Packers 21, Bears 14: Green Bay knocks out Chicago quarterback Jay Cutler in win.

SCHMUCK'S TAKE

The Steelers' win leaves Ravens fans with a decision to make. Which team do you root for?

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 Gerald Seib
WSJ Washington Bureau

WASHINGTON — President Barack Obama plans to use his State of the Union address tomorrow night to kick off a drive that will shape the remaining two years of his term and provide a template for his reelection campaign.

Obama has been moving steadily to the center since the start of his first presidential election doubling two months ago, agreeing to extend tax cuts for the richest Americans, calling for business-friendly regulations and taking steps to repair his relationship with the business community. His speech is an opportunity to showcase his new approach to independent voters.

"This is a fundamental, if not the fundamental, moment of the Obama presidency," said Douglas Schoen, who was an adviser to President Bill Clinton. "He has been moving in the center in fits and starts. But he has yet to declare where he stands on the major issues of the day. This is the chance to reshape the narrative."

OBAMA'S ADDRESS

8 p.m. Tuesday

The virus appears to affect only mating blue crabs and would be destroyed by cooking, thus posing no hazard to humans.

LORENZO MALTHEBIS SUN PHOTO

Scientists discover virus that is killing soft crabs

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

By Timothy D. Wheeler
THE BALTIMORE SUN

Nat Longfellow Cox Corrine and her partner Kevin Cox launched Crab It Dundalk five years ago. They ordered their soft-shell business in the Baltimore area willing to provide some crabs to study.

Working together, they have found a virus in Chesapeake Bay blue crabs that causes the shell of a mating male to harden, or all soft crabs produced between

Former teacher who'd left the classroom to join 16-year-old waterman Richard Young in the crab business.

Alarmed by the losses, they methodically collected samples from crabs, dead and damaged, as others in the crab

Sustainable Aquaculture and Fisheries

- **Sustainable recirculating mariculture**

Europharma

The Most Efficient And Reliable Spawning Aid For Cultured Fish Is Returning To The Marketplace.

Europharma is pleased to announce **ReproBoost** , developed by Professor Yonathan Zohar, will soon be returning to the marketplace for commercial use. Combining GnRHa treatment with an advanced sustained delivery technology, **ReproBoost** maintains an effective dosage of GnRHa by using a single treatment.

ReproBoost has proven to be the most effective enhanced reproduction technology in a wide range of finfish including Atlantic and Pacific salmon, in tests conducted in multiple countries in North and South America, Europe, Australia and Southeast Asia.

A single treatment with ReproBoost will :

- Efficiently and reliably induce spawning in single and repetitive spawners.
- Eliminate the need for multiple injections or treatments.
- Increase the percentage of spawning females.
- Synchronize ovulation and spawning.
- Significantly enhance sperm production in males.
- Reliably advance the spawning season.

For further information contact : Europharma Chile • Palermo 2312, Puerto Montt • 56 65 367 727


Reproduction
DIRTY DISHES

Domestication and Spawning of the Blue Fin Tuna

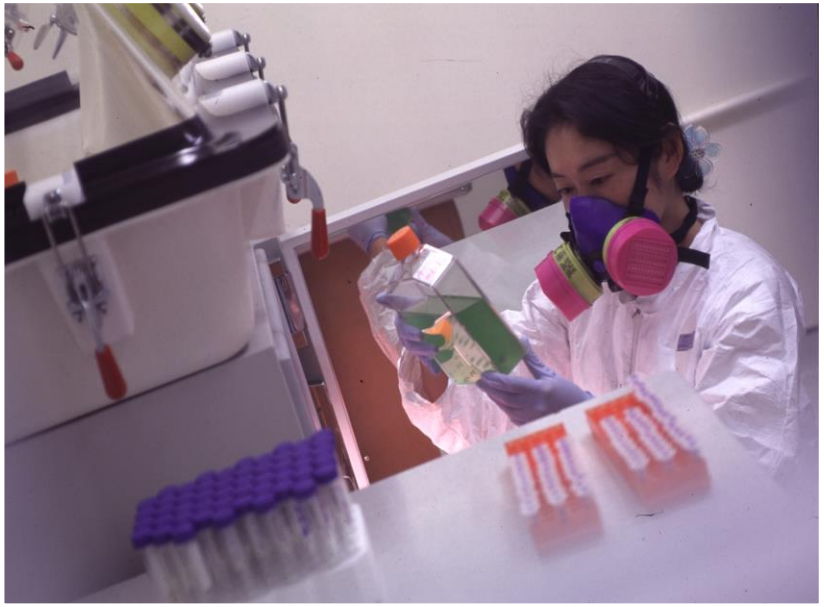
EU-Repro. DOTT

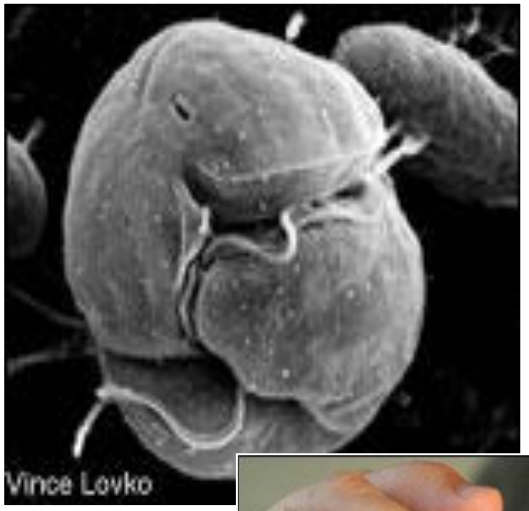
Environmental Systems Biology

- Highly toxic industrial pollutants
- Over 1 million tons have been released to the environment
- Very stable
- Bioaccumulate
- Major cleanup efforts

Environmental Systems Biology

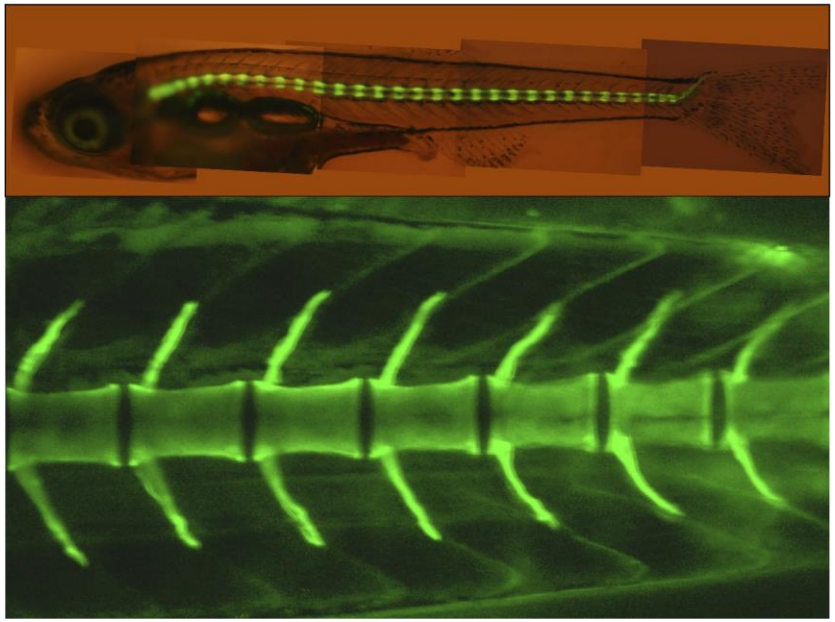
- **Development of sensing and bioremediation technologies to identify/monitor/remediate pollutants, toxins and pathogens.**
- **Oceans and Human Health – emerging interest**

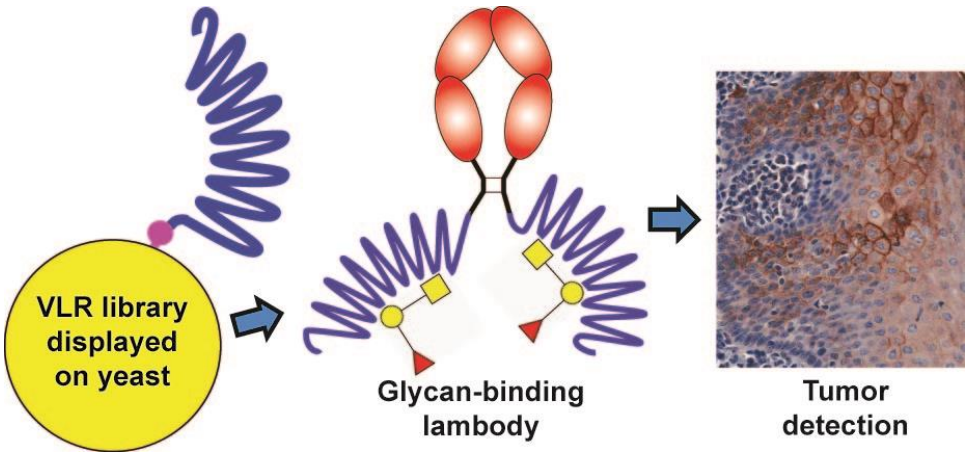




Biology of Model Systems/Developmental Biology

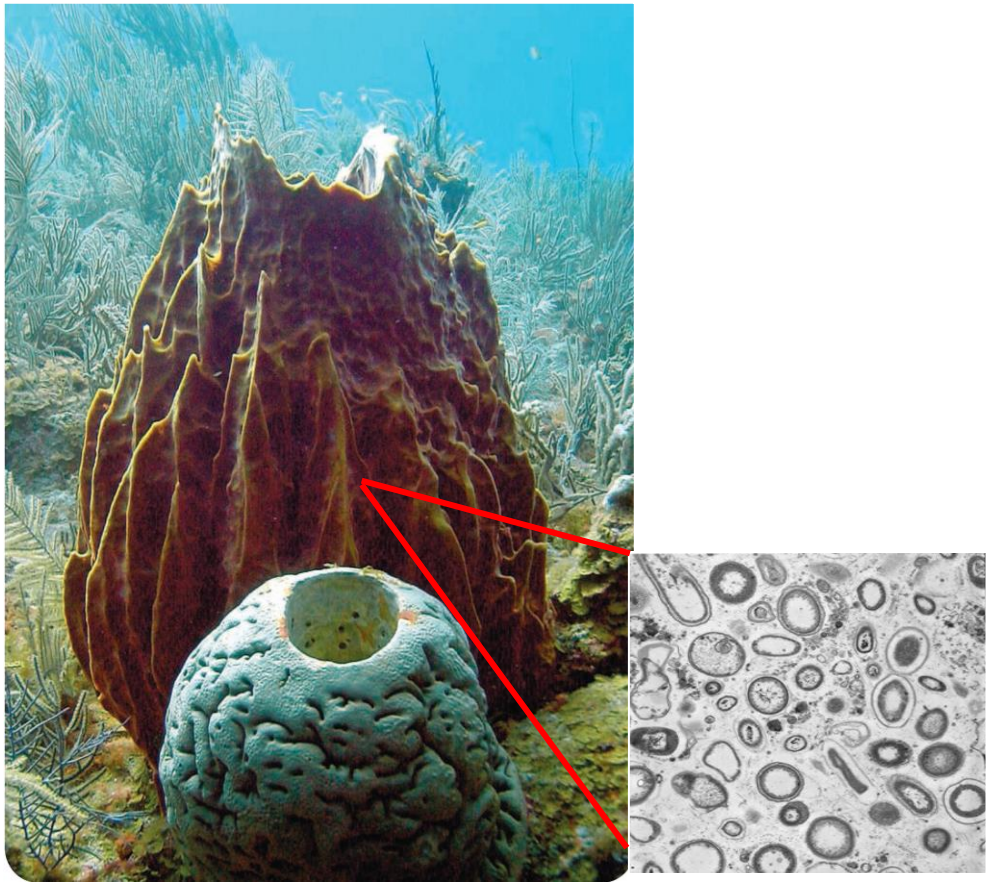
Host-parasite interactions.
Zebrafish and other model organisms.
Immunity in invertebrates, primitive fish.
Molecular mechanisms controlling biofilm formation and virulence gene expression.



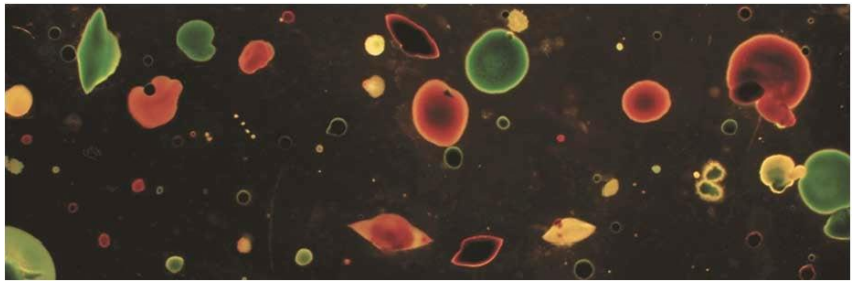


Marine Natural Products and Biomedicine

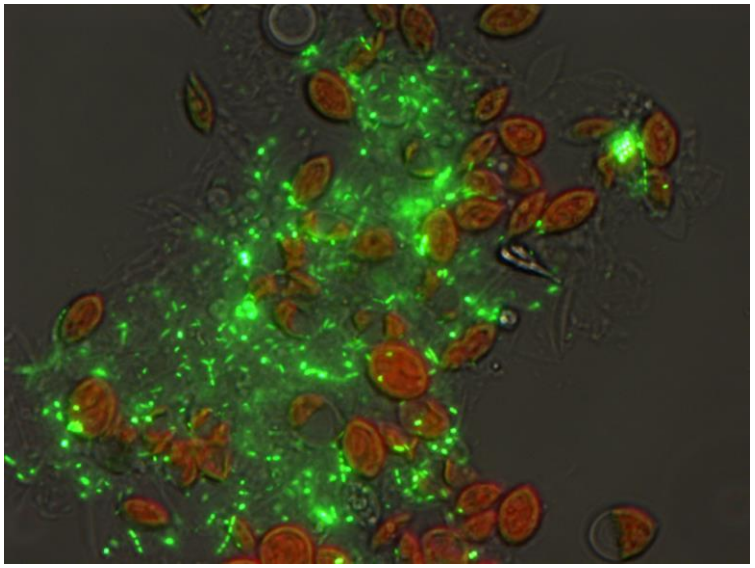
- **Studying compounds with pharmaceutical and industrial potential produced by marine organisms**



Marine Bioenergy

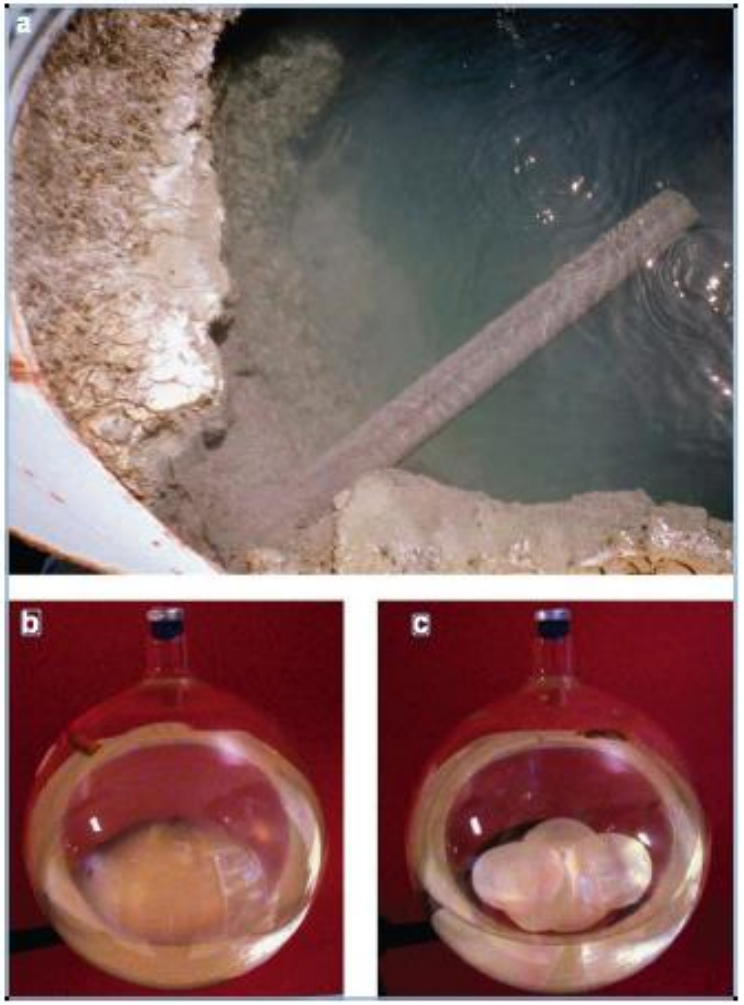


Isolation of phototrophs



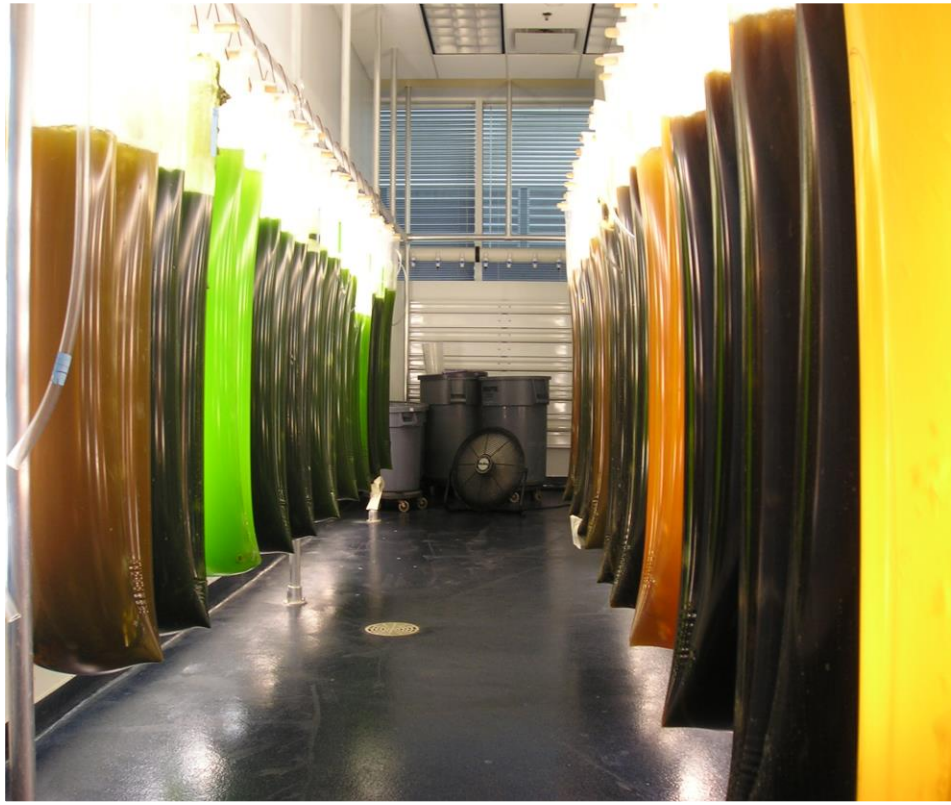
Microalgae and associated bacteria

Algal biofuels

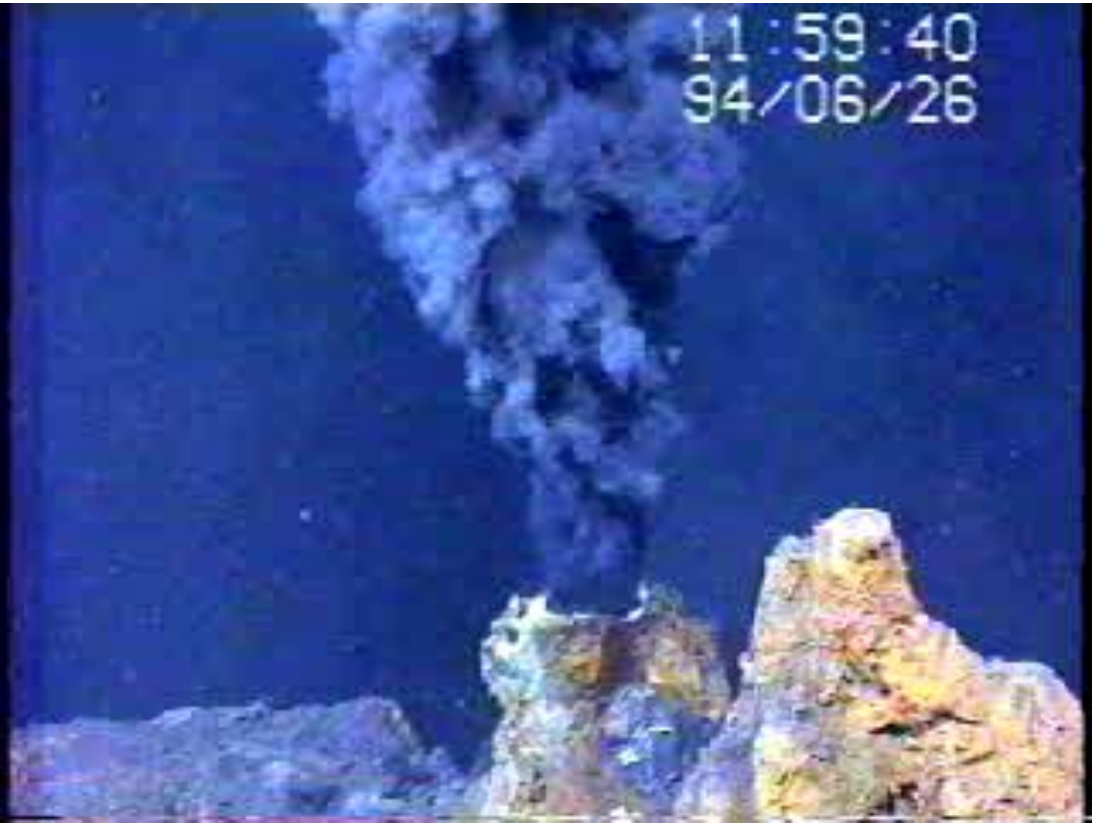


Hyperthermophilic cellulases

IMET's Microalgal Program: From Aquaculture to Bioenergy



Extremophile Biology and Biotechnology



- thermophiles (to 121°C)
- piezophiles (to 800 atm)
- psychrophiles (to -15°C)
- halophiles (to 5.2M)
- acidophiles (to pH=0)

Origin of life, bio-products and processes, astrobiology

Education and Outreach Programs

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

Biotechnology Education and Outreach, STEM Program, Towson Univ.

NOAA-Funded
Living Marine Resources Cooperative Science Center(LMRCSC) Program
IMET: Rose Jagus

NSF-Funded
Summer Microbiology and Research Training (SMaRT) Program

IMET: Russell Hill
Indiana University: Clay Fuqua

Institute of Marine and Environmental Technology



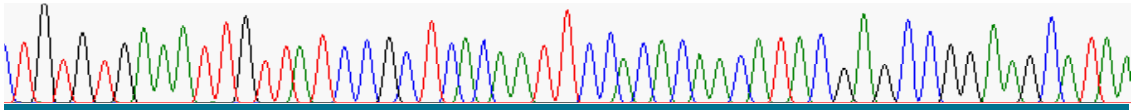
BioAnalytical Services Lab

The BioAnalytical Services Laboratory (BAS Lab) at the Institute of Marine and Environmental Technology (IMET) provides state-of-the-art sequencing services and instrument availability to promote advances in genomics and molecular biology research. Located at the Institute of Marine and Environmental Technology, BASLab services are available to researchers nationwide. The BAS Lab provides Sanger and Next Generation DNA sequencing services, using the **ABI 3130XL** and **Illumina MiSeq** instruments. The wide range of sequencing applications includes metagenomics, resequencing and de novo genome sequencing. Additional molecular biology services include PCR clean-up, plasmid purification, genotyping and clone library construction. The BAS Lab has several instruments that are available for researchers' use, including **Real Time PCR**, **Flow Cytometry**, **FluorChemE**, **Typhoon**, **2100 Bioanalyzer**, **Blue Pippin DNA size selector**, **Covaris ultrasonicator** and **Qubit**. The BAS Lab supports researchers with their project plans, providing them with the most cost effective and appropriate solutions with the available platforms. For more details on sample submission guidelines and pricing, please visit:

http://www.imet.usmd.edu/facilities/bioana.html

For more information, please contact Sabeena Nazar at 410-234-8832 or sabeena@umces.edu

Institute of Marine & Environmental Technology



www.imet.usmd.edu/ facilities/ bioana.html


Thank you
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