

Dept. of Ocean Engineering and Marine Sciences

Rich Aronson
Head of Department



Who We Are 2020

- **102 Incoming Undergraduate Majors**
 - **36 Marine Biology (35%)**
 - **24 Ocean Engineering (24%)**
 - **12 Meteorology (12%)**
 - **8 Environmental Science (8%)**
 - **8 Oceanography (8%)**
 - **7 General Biology (7%)**
 - **7 Sustainability, Marine Cons., Fish/Aqua (7%)**

All-years total: 332 majors, 46 minors
- **~71 Graduate Students**

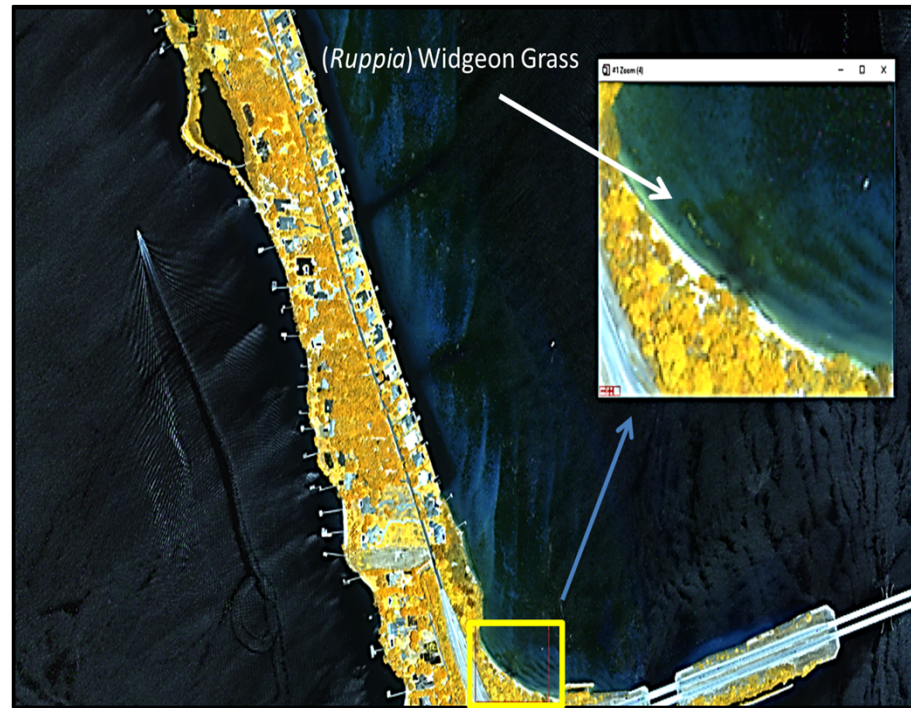


Charles R. Bostater, Jr. Associate Professor



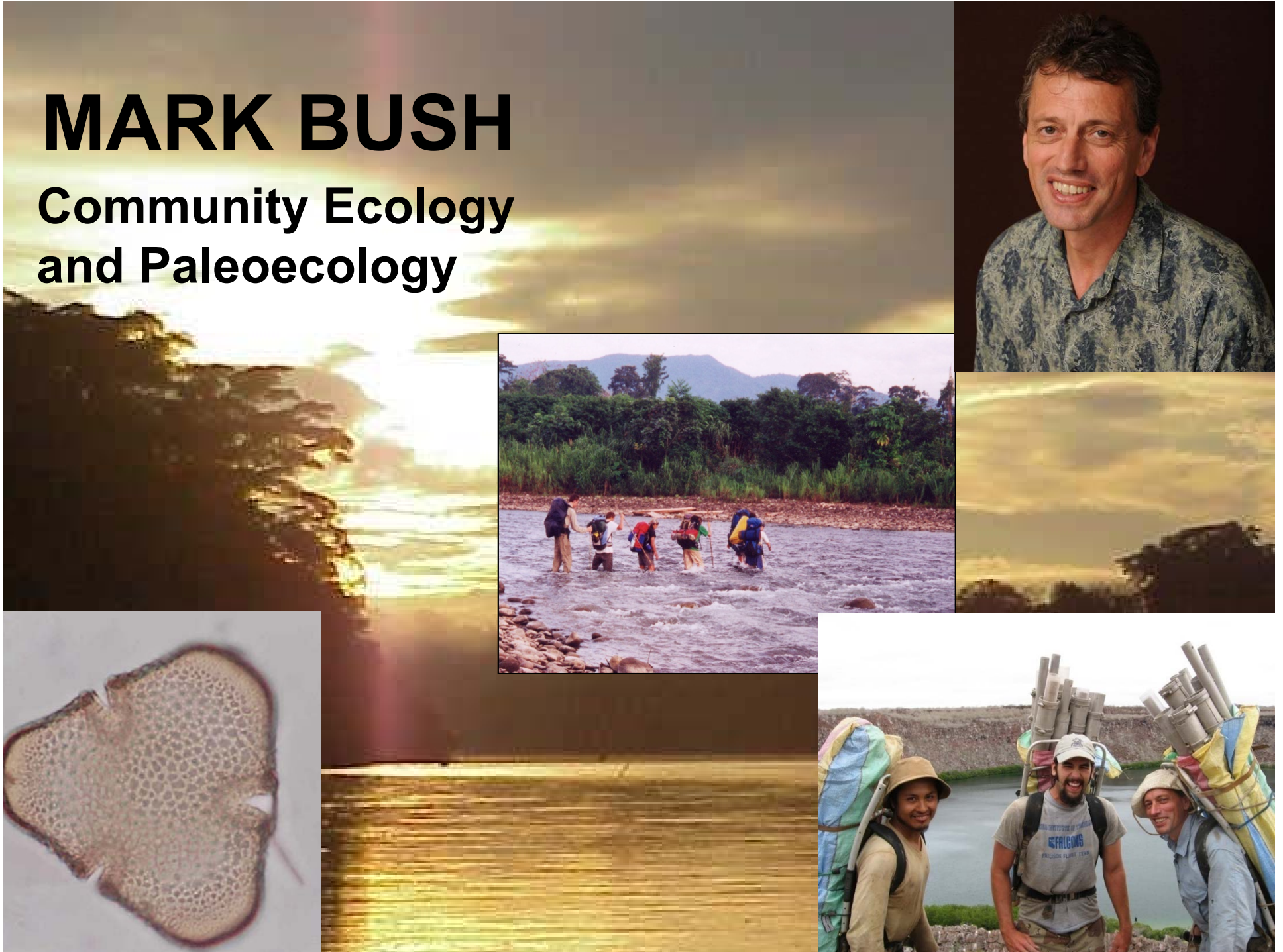
Teaching: Physical Oceanography & Environmental Sciences, Earth Remote Sensing

Research: Satellite & Airborne Remote Sensing, Marine & Environmental Optics, In-Situ Sensing Systems, Boundary Layer Research (surface water gravity waves, water-sediment interfaces, Synthetic Hyperspectral Simulation



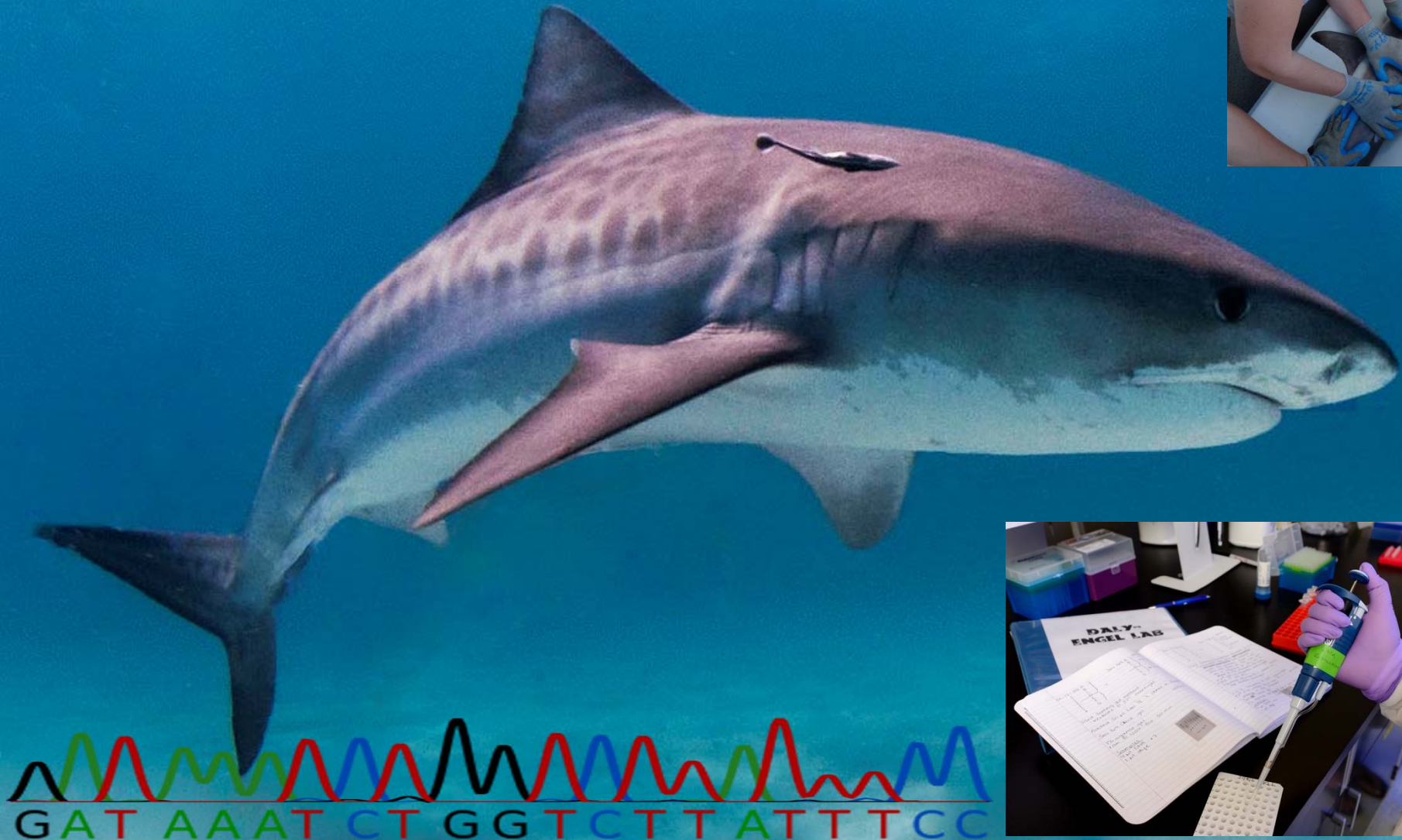
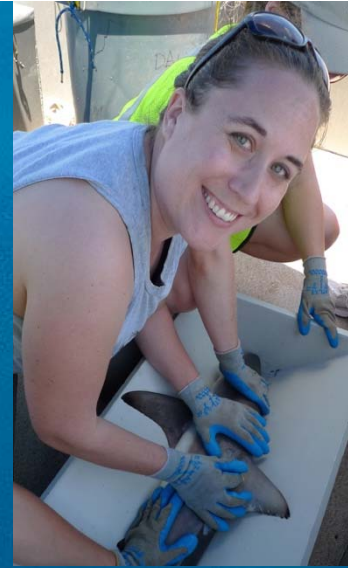
MARK BUSH

Community Ecology
and Paleoecology



TOBY DALY-ENGEL

REPRODUCTIVE EVOLUTION, MOLECULAR ECOLOGY,
AND CONSERVATION OF SHARKS AND OTHER FISHES





Austin Fox



Eutrophication: Nutrient sources, cycling and sinks
Inorganic Contaminants

Kelli Hunsucker, Assistant Professor of Oceanography

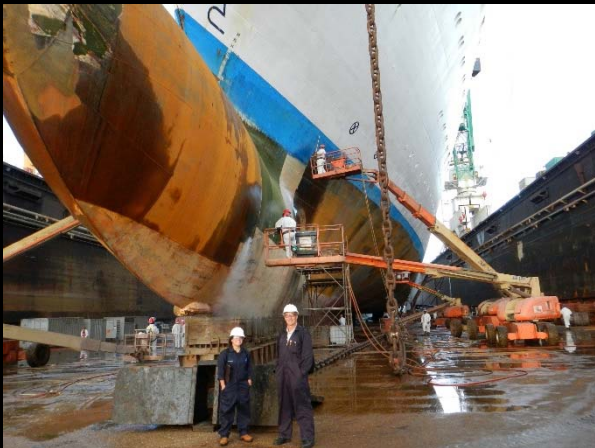


Courses

Introduction to Oceanography
Biological Oceanography
Ocean Biology for Engineers

Research Interests

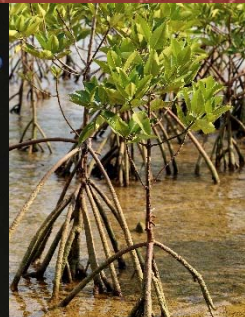
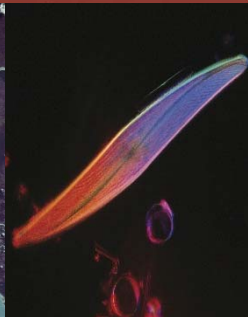
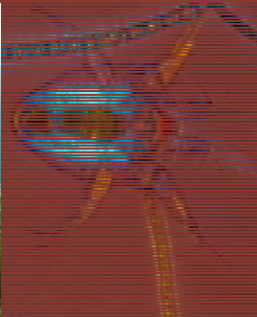
Biofouling
Dynamics of marine biofilms
Benthic ecology
Coastal water quality
Eco-engineering
Marine materials
Manmade impacts on ecosystems
Marine outreach & education



Kevin B. Johnson

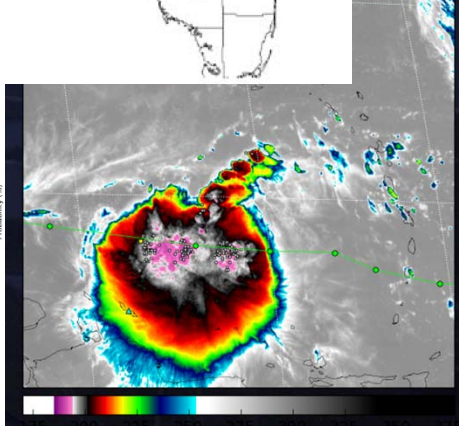
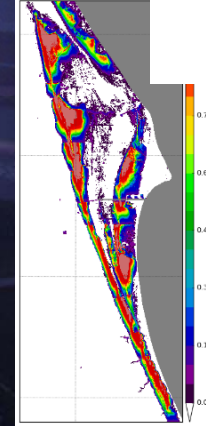
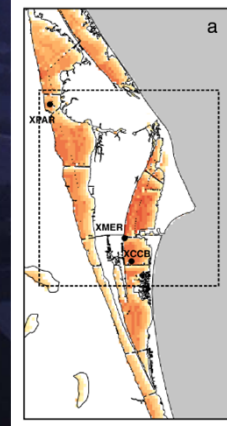
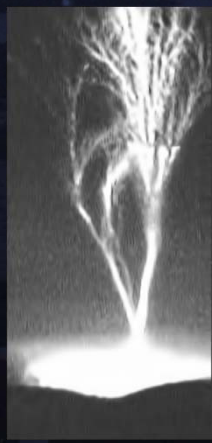
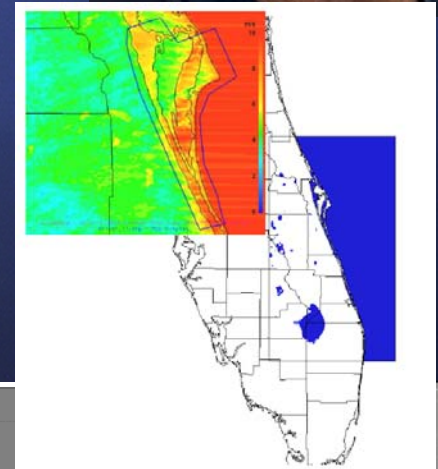
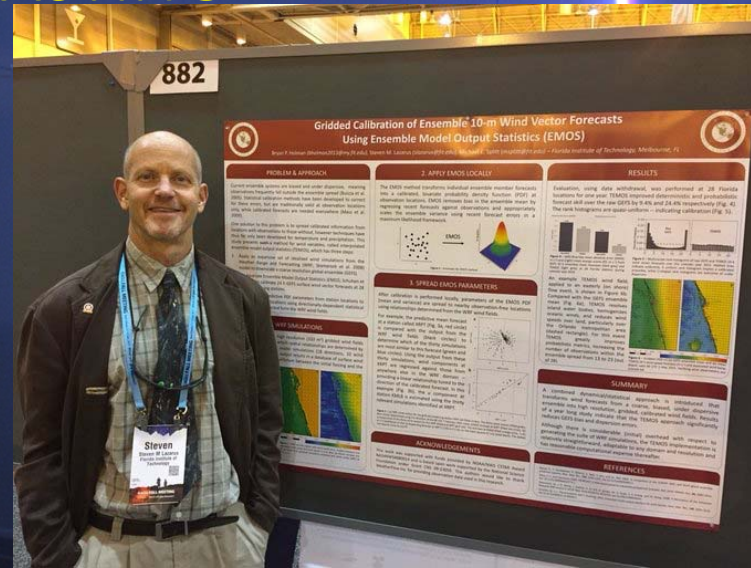
Biological Oceanography and Environmental Science

Plankton Ecology
Harmful Algal Blooms
Invasive Species
Benthic Restoration
Seagrass Ecology
Larval Recruitment



Steven Lazarus

GIGANTIC JETS, WIND AND WATER,
COASTAL/TROPICAL & SEVERE WEATHER,
ENSEMBLE FORECASTING



Ken Lindeman

Coastal Climate Adaptation

Campus & Region Sustainability

Fishery Connectivity & Conservation



City of Satellite Beach
Sustainability Action
Plan 2017



Proposed Spawning Special Management Zones



Implementing "Adaptation Action Area" Policies in Florida

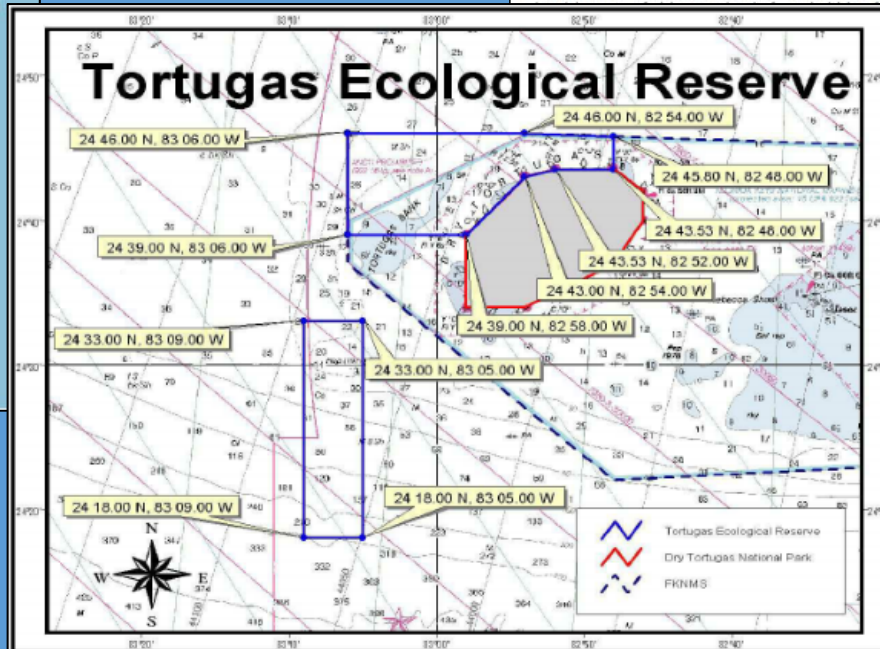
A Supplemental Project of Special Merit to the Statewide Community Resiliency Initiative

The 2011 Florida Legislature passed the *Community Planning Act (CPA)* making significant changes to the state's growth management laws, including the addition of optional adaptation planning for coastal hazards and the potential impacts of sea level rise. The Adaptation Action Area, as defined in the CPA, is an optional comprehensive plan designation for areas that experience coastal flooding and that are vulnerable to the



ing for infrastructure and adaptation planning. Local government should consider policies within the coastal management element that address potential flooding. Criteria for the adaptation action area may include: areas which have a hydrological connection to coastal flooding; areas which have a hydrological connection to coastal flooding (§163.3164(1) and §163.3177(6)(g)(10), F.S.)

and the National Oceanic & Atmospheric Administration (NOAA) approved the Florida Coastal Management Plan's (FCMP) Section 309 Strategy, including an initiative by the Florida Department of Economic Opportunity (DEO) titled "Florida's Plan for Sea Level Rise." This five-year initiative will examine the impacts of sea level rise and determine how to best integrate sea level rise adaptation into coastal planning as well as how to coordinate sea level rise adaptation



GLENN MILLER

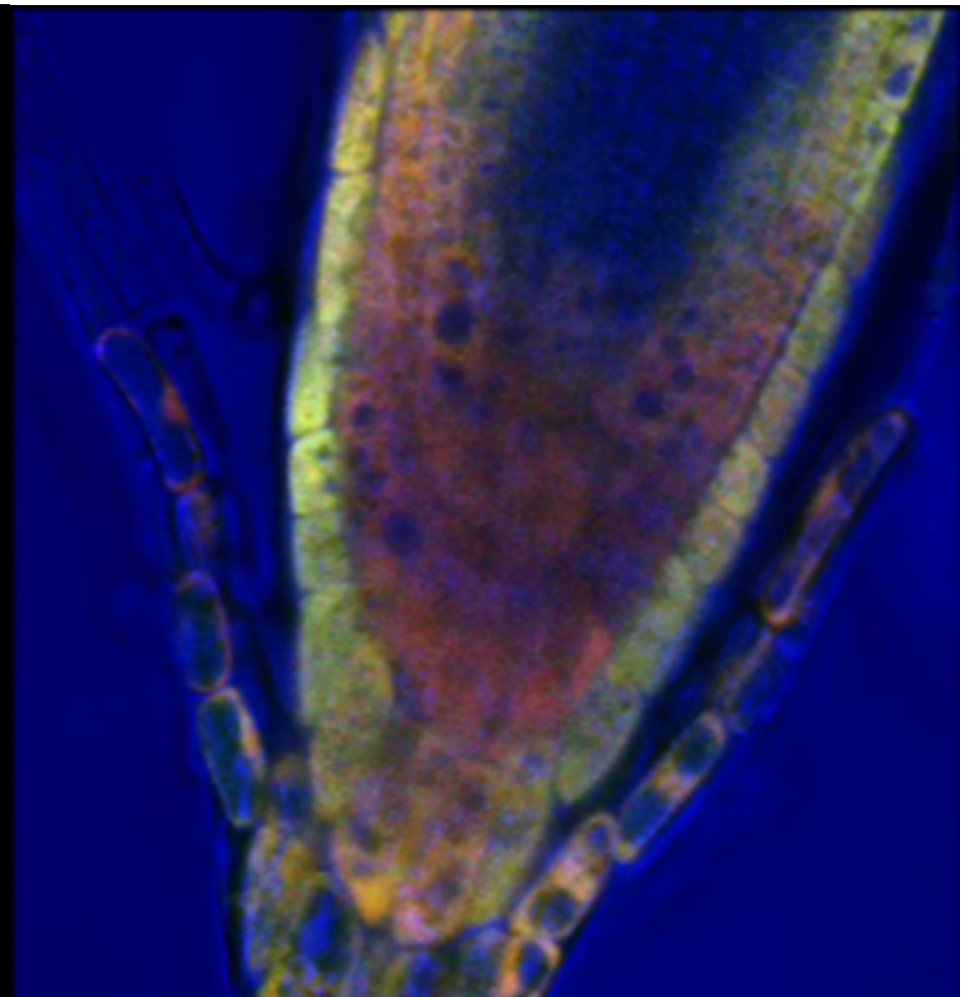
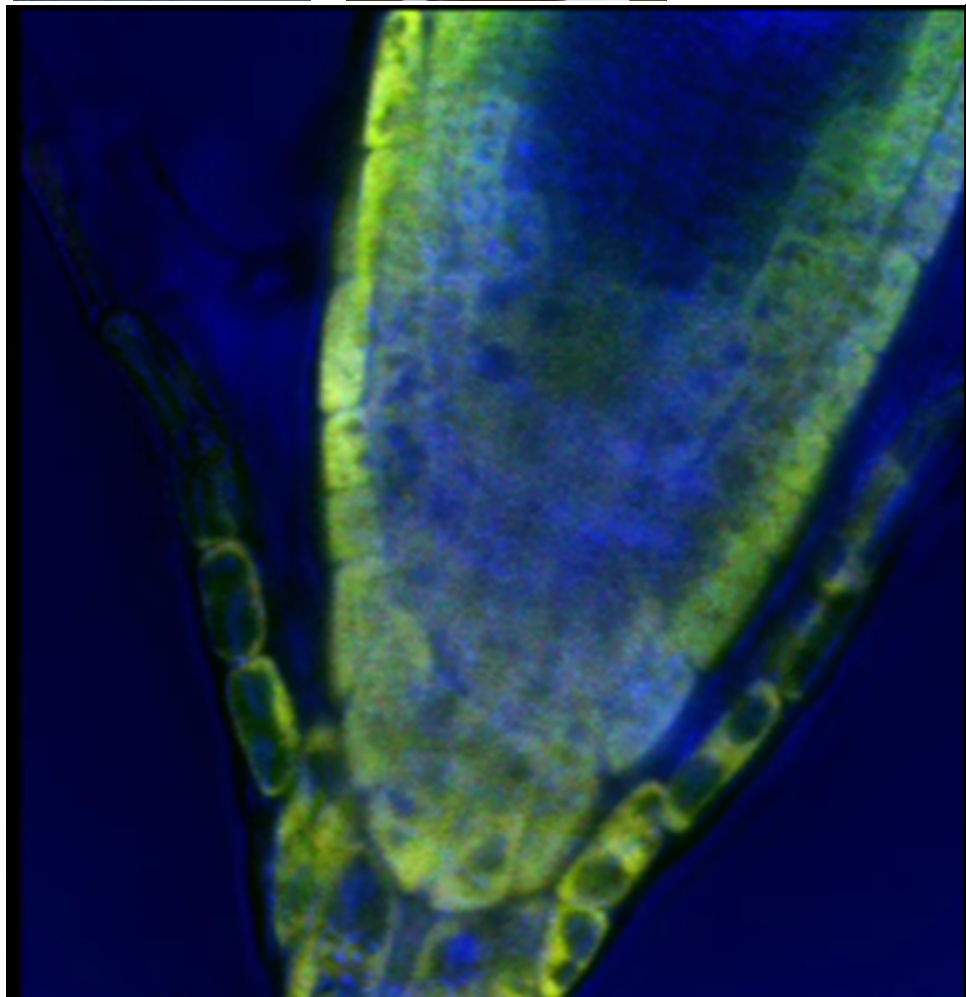
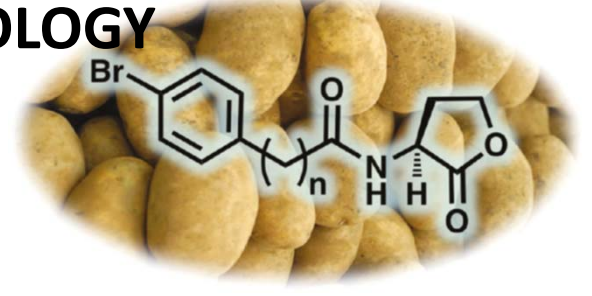
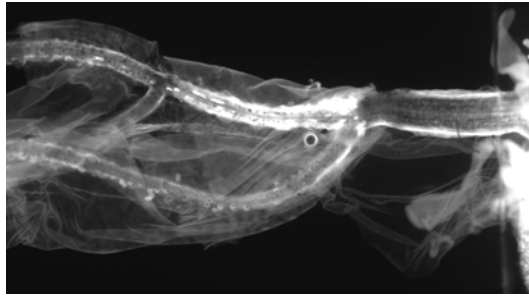
Instructor

Modeling and Quantitative Biology
Coastal Ecology



Andrew Palmer

CHEMICAL ECOLOGY AND PLANT BIOLOGY



Pallav Ray: Meteorology

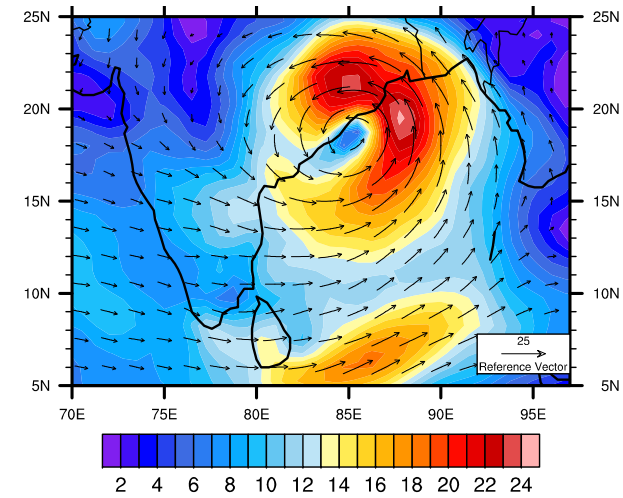
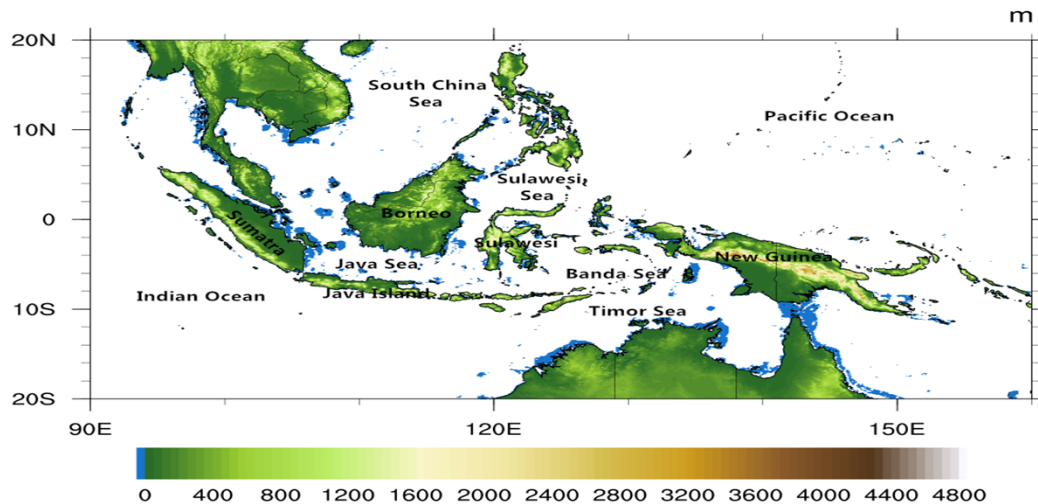
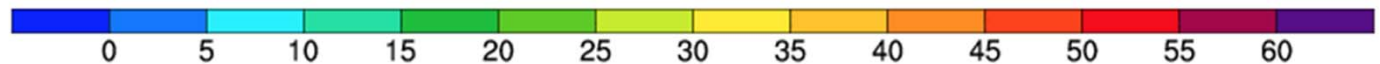
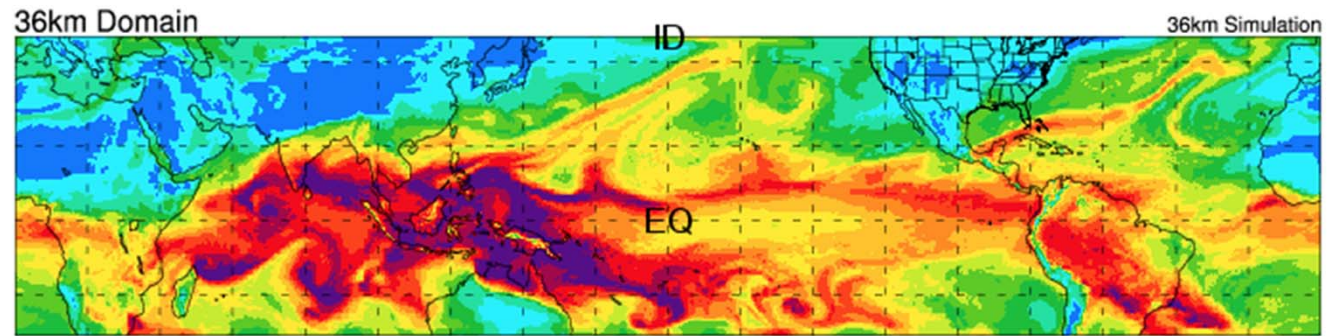
Tropical Climate Dynamics

Intraseasonal Oscillation

Regional Climate Modeling

Surface Energy Budgets

Urban Climate



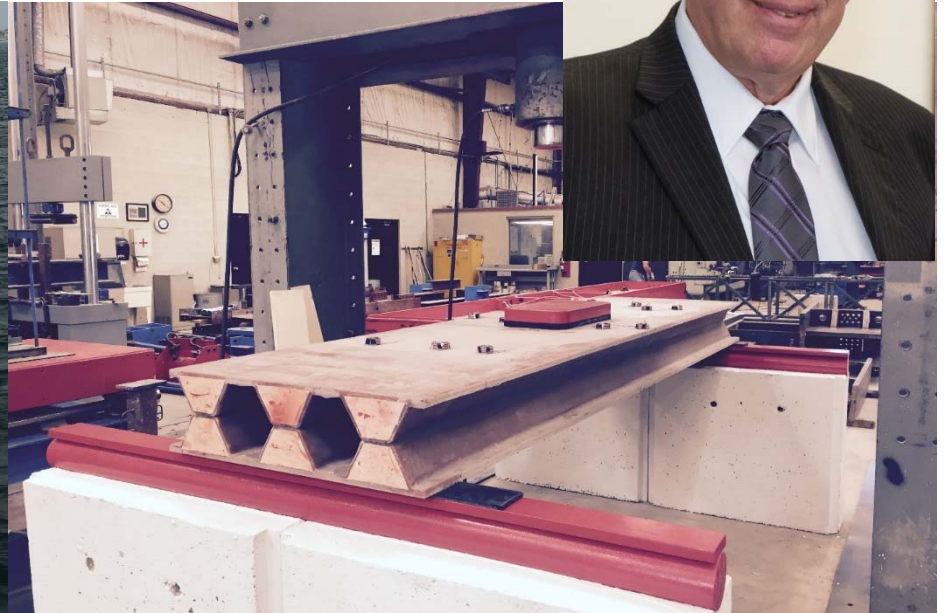
Emily Ralston

Biological invasions, invertebrate settlement and recruitment, biomimicry, field testing, ecology and biology of fouling communities



Ronnal Reichard

Composite Materials and Structures



Prasanta K. Sahoo

Associate Professor

Naval Architecture

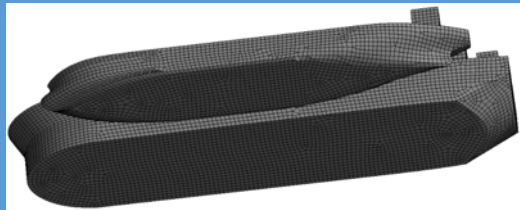
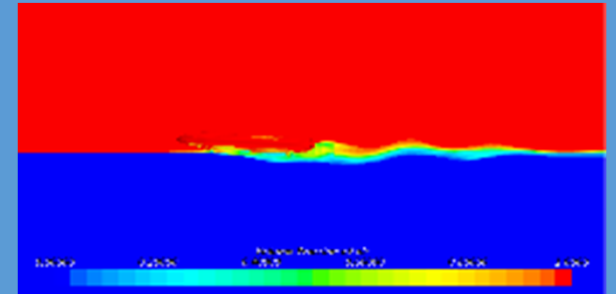
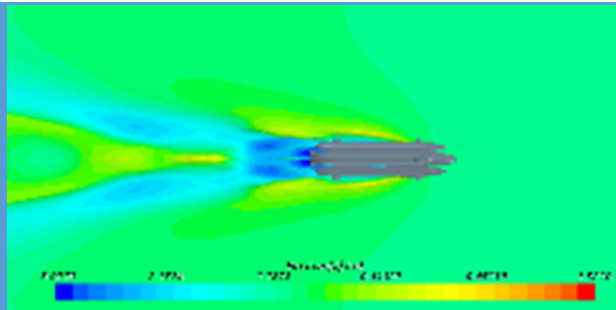
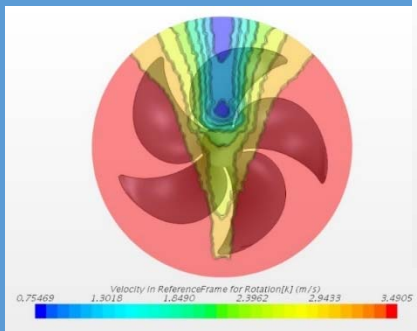
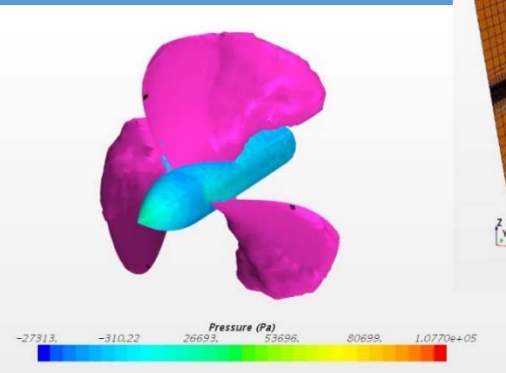


Fig.2. Coupled model of the FPSO and shuttle tanker

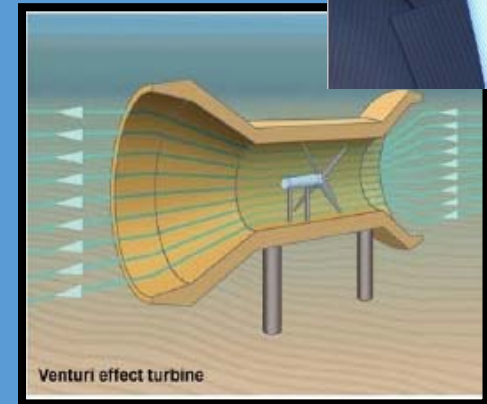
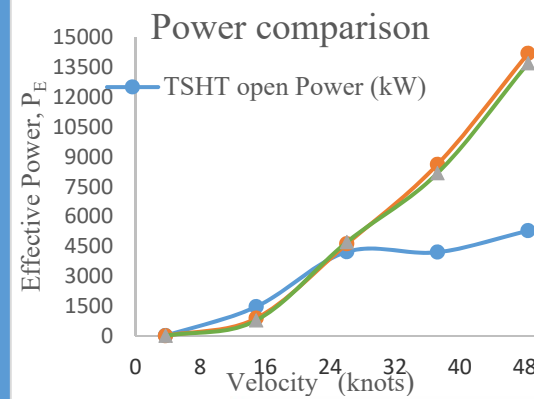
Hydrodynamics of side-by-side Offloading Operation



Wake field behind a highly skewed propeller



Propeller Cavitation through CFD



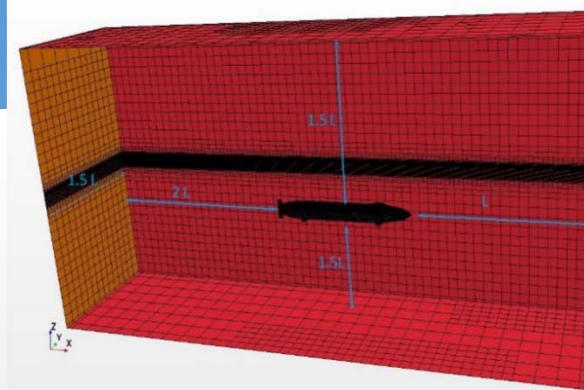
Venturi effect turbine

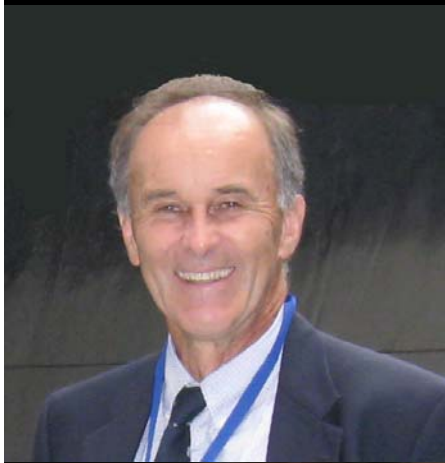


Horizontal axis turbine



Axial Turbine for Energy Producing Device





Geoff Swain

Ocean Engineering

Materials, Corrosion, Biofouling

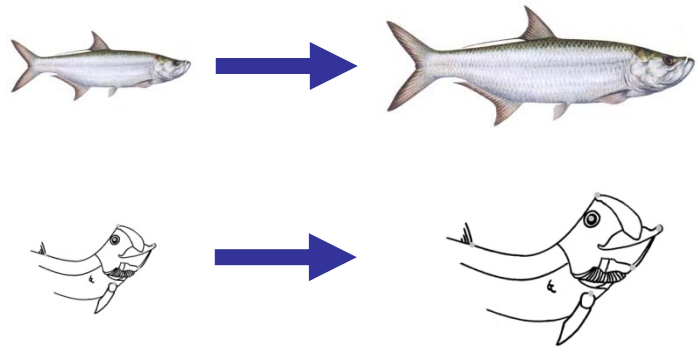
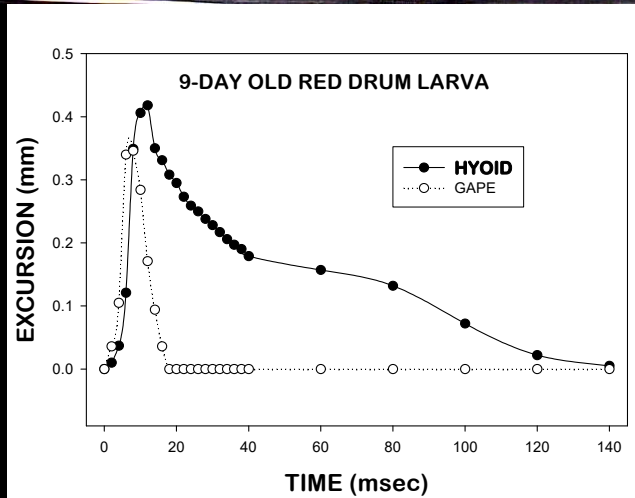
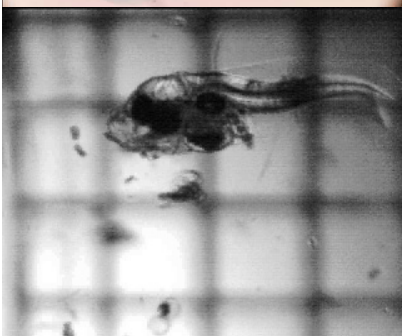
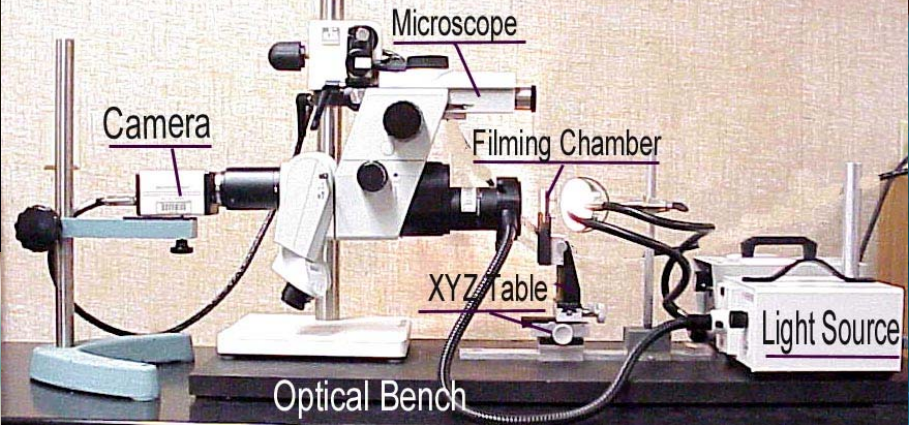
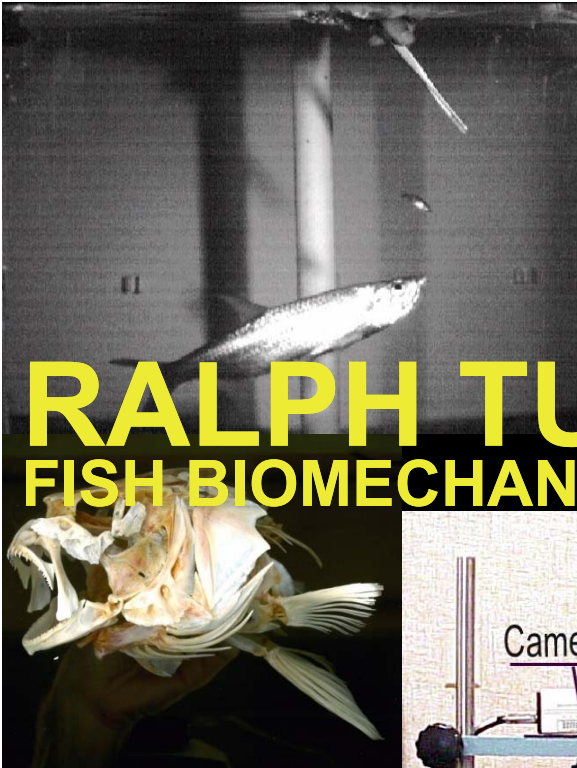
Ships, Boats, Oil and Gas, Renewables, Subsea,
Ports and Harbors, Aquaculture



Radiance of the Seas
Victoria Shipyard, BC

RALPH TURINGAN

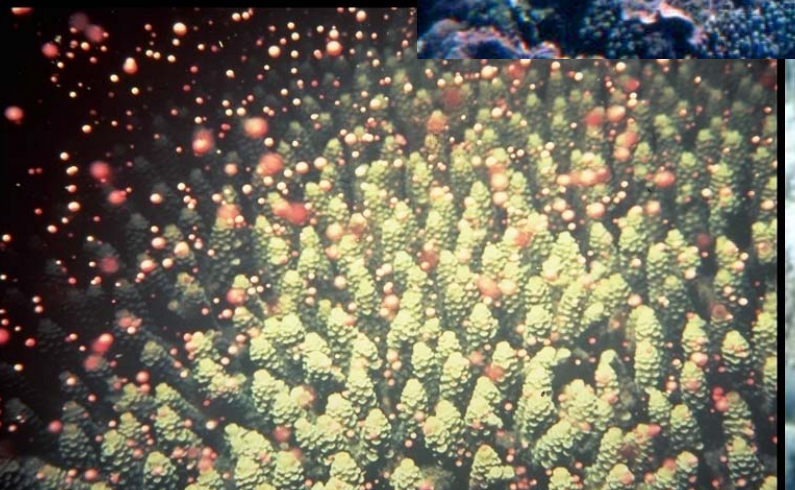
FISH BIOMECHANICS AND EVOLUTION



ROBERT VAN WOESIK

CORAL REEF ECOLOGY

DIRECTOR, INSTITUTE FOR RESEARCH
ON GLOBAL CLIMATE CHANGE

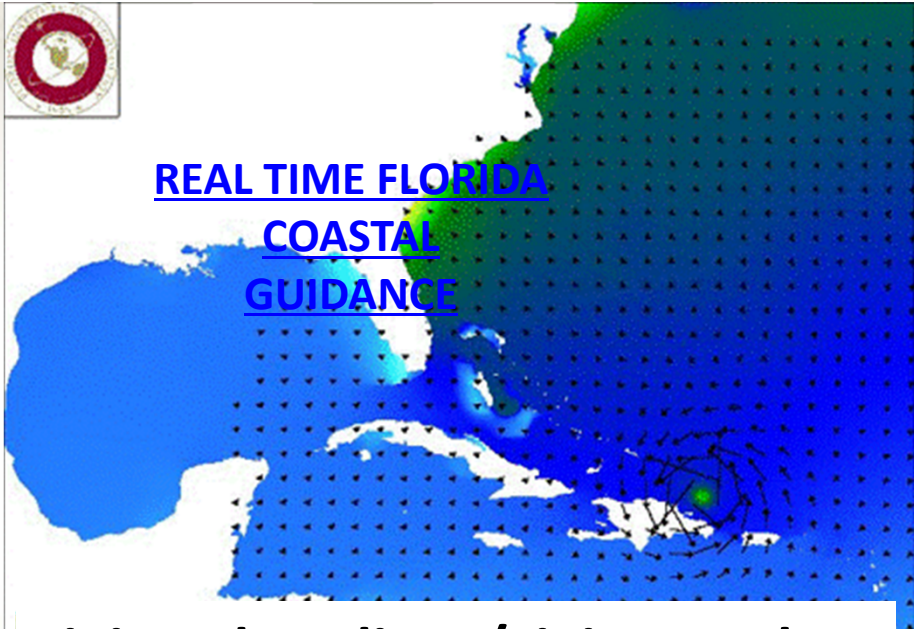


Robert J. Weaver

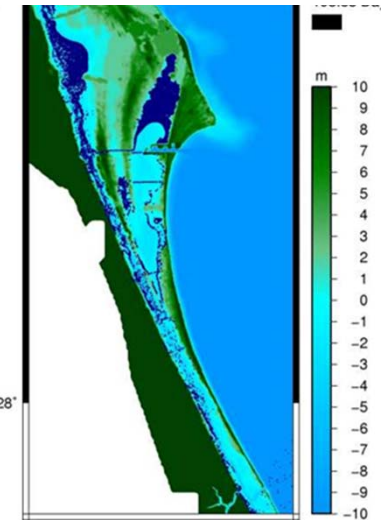
Associate Professor of Ocean Engineering



Real-Time Forecasting of Waves & Storm Surge



Modeling IRL Flushing:



Living Shorelines/Living Docks:



Outreach & Education:



Muck removal:

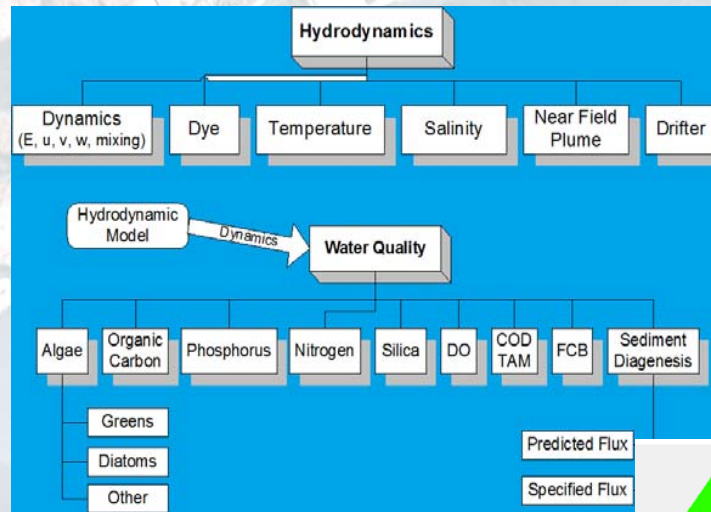


Stephen Wood – Professional Engineer Professor of Ocean Engineering

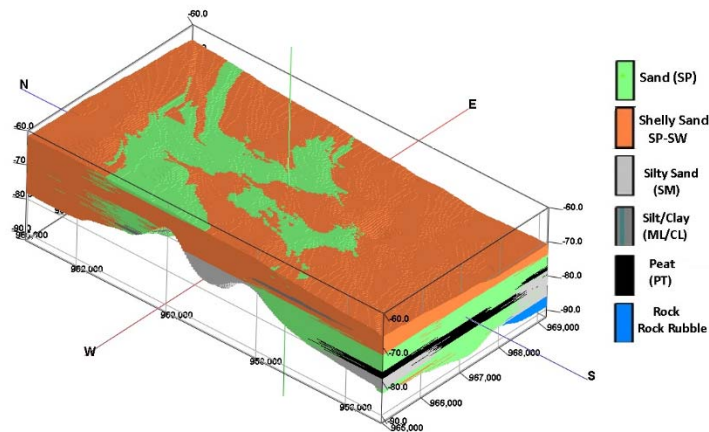
- Autonomous Underwater Vehicles
- Remotely Operated Vehicles
- Ocean Energy
- Underwater Technologies



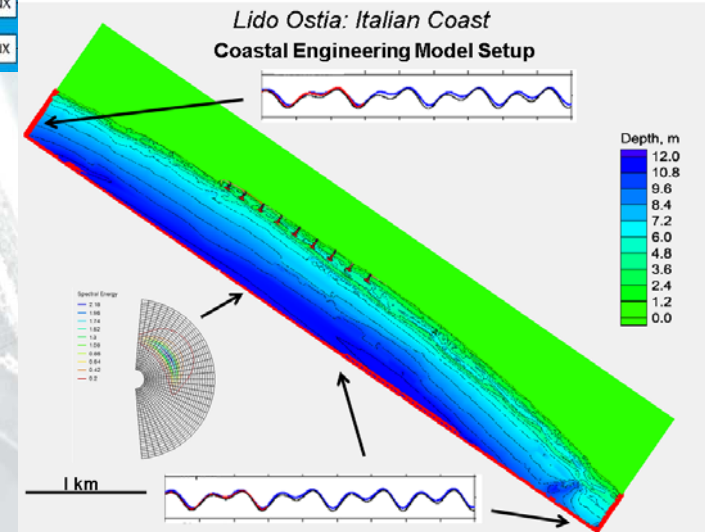
Gary A. Zarillo, Ph.D., PG
Professor of Oceanography
 Coastal and Estuarine Processes
 Coastal Sedimentary Environments
 Coastal Zone Management
Estuarine Dynamics and
Water Quality Models



Shallow Marine
Sediment Resources



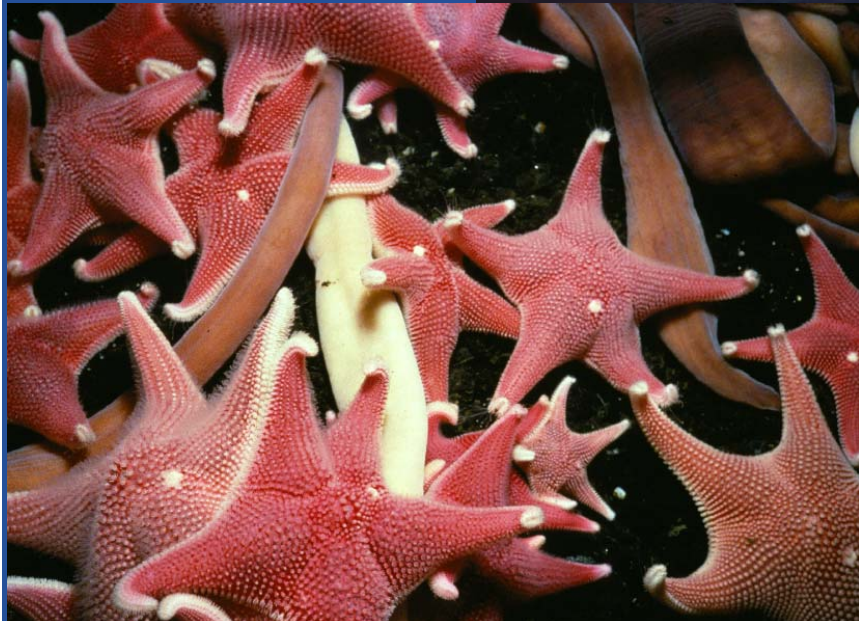
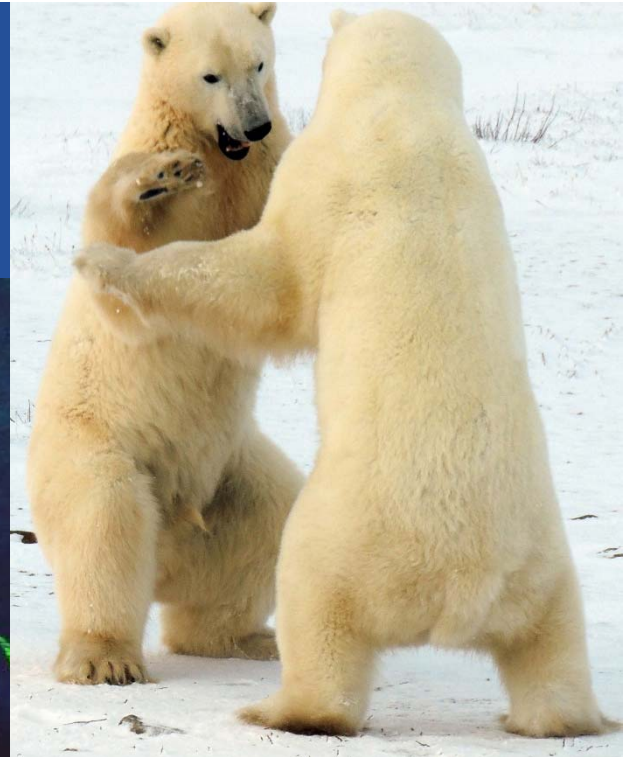
Coastal Engineering
Modeling





RICH ARONSON

Department Head



Climate Change
Coral Reefs
Polar Ecology

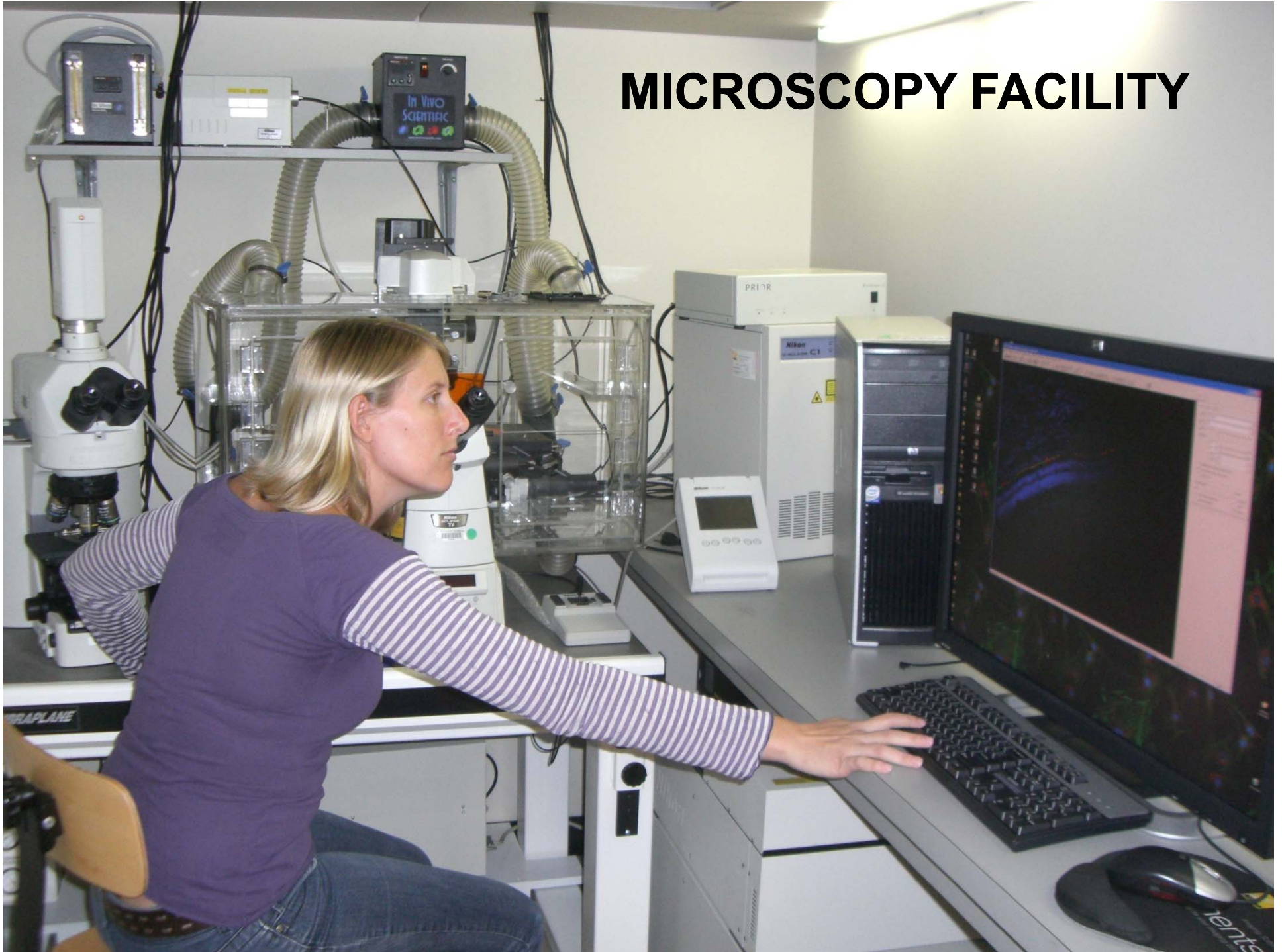
Evinrude Marine Operations Center



Florida Tech Aqualab



MICROSCOPY FACILITY





**Diving at Florida Tech:
SCUBA Club
AAUS**

AAUS Program

Requires Advanced Scuba Cert.

Contacts:

Tim Fletcher, DSO

Dr. Jon Shenker, this Department

Industrial Internships

**Ocean Engineering, Oceanography
Environmental Science**

- **Faculty have excellent contacts with local industry.**
- **Students should chat with advisor.**
- **Receive course credits!**

Industrial Internships

**Ocean Engineering, Oceanography
Environmental Science**

Many students have internships and part-time jobs at local tech companies:

- **Northrup Grumman (ME, AE, EE, OE)**
- **Harris Corp (ME, AE, EE, OE)**
- **Rockwell Collins (ME, AE, EE, OE)**
- **Larsen Motorsports (ME, OE)**
- **Structural Composites (OE)**
 - **President is OE Alum**
- **Matrix Composites (ME, OE)**
 - **President is OE Alum**

YOUR RIGHTS

- **A world-class education in a nurturing environment.**
- **Fair, unbiased treatment.**
- **Access to your faculty advisor and your committee.**
- **Instruction and facilities to complete your degree in a timely fashion.**
- **Career advice from your advisor and your graduate committee.**

YOUR RESPONSIBILITIES

- **Academic excellence.**
- **Management of your schedule.**
- **Accessing your faculty advisor.**
- **Timely and satisfactory completion of your assignments.**
- **Attendance at seminars: Wednesdays at 4:00 PM.**
- **Familiarity and compliance with the Graduate Handbook.**

Filing Your Paperwork

- University forms are originated with the Student Coordinators' Office, under the direction of Mark Archambault, the Assistant Dean of CoES. Contact Jennifer Nessmith (jnessmith@fit.edu) to file your forms.
- The exceptions are our departmental forms, which go to Dee Dee Van Horn (dvanhorn@fit.edu):
 - Formation of graduate committee
 - Forms 1–5 in the Graduate Handbook, which you will receive soon.



YOUR RESPONSIBILITIES

- **Academic excellence.**
- **Management of your schedule.**
- **Accessing your faculty advisor.**
- **Timely and satisfactory completion of your assignments.**
- **Attendance at seminars: Wednesdays at 4:00 PM.**
- **Familiarity and compliance with the Graduate Handbook.**
- **Academic honesty and personal integrity.**

PLAGIARISM

Copying the work of others and presenting it as one's own. Plagiarism includes *but is not limited to*:

- Copying text verbatim from other publications without quotation marks or attribution.
- Copying text from other publications and changing a few words without attribution
- Copying images without attribution.
- Repeating another person's concepts or ideas in a paper without proper attribution.
- Submitting papers purchased from websites or other sources.
- Copying anything from fellow students in written exams or papers (AKA cheating).

More information is available on the Florida Tech website: www.fit.edu/current/documents/plagiarism.pdf

The penalties for plagiarism are severe!

When in doubt, consult your instructor!

SOME ADVICE

- **Work hard.**
- **Manage your time wisely.**
- **Be proactive about your education.**
- **Sign up for the OEMS student listserv (see next slide).**
- **PLUS: Check your Florida Tech email account every day. We will not send email to another account.**

Departmental Listservs

- **Everyone should subscribe to the main listserv: oems@lists.fit.edu**
- **Subscribe to more specific listservs as appropriate.**

Departmental Listservs

oes@lists.fit.edu

ALL OEMS programs (the list for department wide posts, e.g. picnic). **To subscribe send email:**

to: sympa@lists.fit.edu

subject: subscribe oems firstname lastname

marsci@lists.fit.edu

Marine and Conservation Bio, Ecology, Aquaculture. **To subscribe send email to:**

to: sympa@lists.fit.edu

subject: subscribe marsci firstname lastname

oes@lists.fit.edu

Meteorology, Oceanography, Enviro Sci, Ocean Engineering. **To subscribe send email (no subject):**

to: oes-subscribe@lists.fit.edu

fitscams@lists.fit.edu

Meteorology only. **To subscribe send email (no subject):**

to: fitscams-subscribe@lists.fit.edu

Lists owner: Dr. Lazarus

Social Media

<https://www.facebook.com/pg/FLTechOEMS/about/>

https://www.instagram.com/oems_floridatech/?hl=en

https://twitter.com/ocean_florida

Welcome to the Family!

Rich Aronson
Head of Department

