Hillsborough County Public Schools
Secondary Science
Professional Study Day
A Celebration of Science

Sign-In and Coffee, 8:00am
All Teachers, Robinson High School Auditorium Lobby

Session 1
General Session, 8:30am – 9:25am
All Teachers, Robinson High School Auditorium

Supervisor’s Address
Nancy Johnson Marsh, Science Supervisor, Hillsborough County Public Schools
Larry Plank, Science Supervisor, Hillsborough County Public Schools

An Introduction to the New Generation Sunshine State Standards for Science
Lisa Culberson, District Resource Teacher, Secondary Science, Hillsborough County Public Schools

Session 2
Concurrent Discussions, 9:30am – 10:25am
All Teachers, Course Curriculum & Exams

Advanced Placement Biology
A review of the exam results from the 2007-2008 school year will be discussed and a plan will be developed to improve the quality of the exam. An alternative item bank will be available for consideration.
Carmen Austin & Dan McFarland
Room 140

Advanced Placement Chemistry
A review of the first semester curriculum guide and exam for AP Chemistry.
Alina Mills & Dean Warner
Room 138

Advanced Placement Environmental Science
A review of the first semester curriculum guide and exam for AP Environmental Science.
Raffic Baksh, Jennifer Fritz & Margaret Barthel
Room 125

Advanced Placement Physics/Physics Honors/Physics
A review of the first semester curriculum guides and exams for all physics courses.
Jens Diaz & Harry Welsch
Room 129

Anatomy and Physiology
A review of the first semester curriculum guides and exams for both Anatomy and Physiology courses.
Edward Lucker & Loretta Hodgdon
Room 143
**Astronomy**
A review of the first semester curriculum guide and exam for Astronomy.

Shelly Glennon  Room 123

**Biology Honors**
A review of the first semester curriculum guide and exam for Biology Honors.

Rhoda Garcia  Room 128

**Chemistry**
A review of the first semester curriculum guide and exam for Chemistry.

Lisa Culberson & Julie Sackles  Room 126

**Chemistry Honors**
A review of the first semester curriculum guide and exam for Chemistry Honors.

Mary Rufener  Room 130

**Colloquium on International Baccalaureate Science**
A discussion for teachers of IB Sciences.

IB Science Teachers  Room 131

**Ecology**
A review of the first semester curriculum guide and exam for Ecology.

James Brockman & Susan Weber  Room 108

**Forensics**
A review of the first semester curriculum guide and exam for Forensics.

Denise Silver  Room 124

**Integrated Science 1**
A review of the first semester curriculum guide and exam for Integrated Science 1.

Diane Kyle  Room 137

**Integrated Science 2**
A review of the first semester curriculum guide and exam for Integrated Science 2.

Dan Denmark & Bill Panczner  Media Center

A review of the second semester curriculum guide and exam for Integrated Science 2.

Michael Stookey, Sandra Kinter & Mary Redgate  Media Center

**Integrated Science 3 (for teachers who did not attend the summer workshop)**
A crash course on the new integrated Science 3 curriculum from one of the curriculum framers.

Elaine Gibbs  Room 105

**Integrated Science 3 (for summer workshop attendees)**
A review of materials and textbooks distributed at the 2008 summer workshop on the new Integrated Science 3 course.

Robert Guido  Room 107
Marine Science
A review of the first semester curriculum guide and exam for Marine Science.
Kristy Chiodo
Room 106

Zoology
A review of the first semester curriculum guide and exam for Zoology.
Jean Cattoi
Room 141

Special Guest Presentation: Teachers for Learners - Biology
The focus of this presentation is instructional strategies for supporting science vocabulary acquisition in the high school classroom, along with an introduction to the tool Concept Construxions.
Catherine Saldutti, Teachers for Learners, San Francisco, CA
Auditorium

Session 3
Concurrent Discussions, 10:30am – 11:25am
All Teachers, Course Curriculum & Exams

Advanced Placement Biology
The required AP Biology Lab #5: Cellular Respiration will be conducted using volumeters from Ward’s. A general discussion of AP lab challenges will be discussed.
Carmen Austin & Dan McFarland
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Facilitator to be Determined

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Auditorium
Mall Tables, 11:30am – 12:55pm

*All Teachers*

Collaborative group discussion periods for site-based teams to review FCAT Science data and develop the team’s “2008-2009 Plan of Action”; business partner displays; and textbook information. Both science supervisors will be available to address questions and issues.

**Lunch will be served during the working mall session.**

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Session 4: Special Topics, 1:00pm – 1:55pm

**Feature Presentation – All Sciences**

**Florida High Tech Corridor Council and techPATH**

The goal of techPATH is to help feed the technical workforce pipeline by conducting workshops for middle and high school science, math and technology teachers. These workshops, or techCAMPS, expose these educators to various high technology employment opportunities for their students in the Florida High Tech Corridor. To date more than 1700 educators have been exposed to the technology basics, the job and educational requirements and the pay scales in STEM fields.

**Dr. Jeff Bindell & Vicki Morelli, Orlando, FL**

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**All Sciences**

**Gizmos**

A presentation of *Gizmos*, the world’s largest collection of math and science simulations. Science *Gizmos* begin at grade 3 and continue through high school physics. Space is limited to 20 participants.

**Pam Larson, Explore Learning, Jacksonville, FL**

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**AP Environmental, Biology, Ecology, Marine Science and Zoology**

**Underwater Archaeology at The Florida Aquarium**

Come to a snapshot session that highlights exciting field work that The Florida Aquarium is conducting, while learning how to participate in one-day and multi-day classroom and field experiences offered to secondary-level teachers. From underwater archaeology initiatives in local springs to the mapping of shipwrecks in Tampa Bay, aquarium divers are exploring all aspects of our aquatic world. Learn how you and your students can get involved in the cutting-edge explorations!

**Luisella DeAngelis, The Florida Aquarium**

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**Biology and Forensics**

**Forensic Anthropology**

**Dr. Erin Kimmerle, University of South Florida**

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**All Sciences**

**Bright House Networks**

**Cable in the Classroom and the Forecast Earth Summit**

Participants will be provided information regarding Bright House Networks’ *Cable in the Classroom* educational program as well as The Weather Channel’s upcoming *Forecast Earth Summit*, an opportunity for teachers and students to attend the next Earth Summit in the Nation’s capital to lead the way to a greener, cleaner future for our country!

**Andrea M. White & Christina Crumpton, BrightHouse Networks**
All Sciences
PASCO
An Introduction to PASCO's new SPARK Science Learning System and an overview of DataStudio and GLX features.
Rex Randolph, PASCO Scientific
Room 140

Forensics
Blood Spatter Analysis
Cpl. Mike Lowell, Temple Terrace Police Department
Room 123

Chemistry/All Sciences
Laboratory Safety
FLINN Scientific videos will be show and a roundtable discussion of safety issues will be held. This session is recommended for new teachers to science as well as those who wish to brush up on their safety procedures and knowledge!
Don Helman, Spoto High School
Room 138

Physics
Institute of Electrical and Electronics Engineers
Using Household Items to Create Working Models
The focus of this lesson is to develop a working model of a nail clipper. Teachers will learn the basic principles of engineering design and model building so that they may share with their own students. Lesson activities: Students design and build a working model of a nail clipper. Through the process, students explore simple machine construction and the process of model making, as well as learn about simple machines - a nail clipper is an example of a first class lever. This activity can be completed in a single 45 minute course block.
Ralph Painter, IEEE/FWCS
Room 129

Astronomy, Integrated Science 2 and Physics
Brining the Amazing High Energy Universe into Focus: The NuSTAR (Nuclear Spectroscopic Telescope Array Mission)
This is a hands-on classroom activity based introduction to NASA’s earth-orbiting telescope NuSTAR scheduled for launch in 2011.
Bill Panczner, NASA Education and Public Outreach, Astrophysics Educator
Ambassador for NuSTAR, Sonoma State University, Rohnert Park, California
Room 126

Biology and Genetics
How the Leopard Got It’s Spots: The New Science of Evo-Devo
Rhoda Garcia, Riverview High, HCPS
Room 137

All Sciences
Reading and Science
Beth Vallender, CRISS Content Specialist, East Bay High School
Room 105

All Sciences
Teacher Friendly Tools
This session will be a presentation in which some of the facilitator’s favorite FREE applications for teachers and students will be highlighted. Included in the session will be Texas Instruments Emulators that run on your computer; Hyper Cam II, which allows you to record anything that you do on your computer; Stick Figure Animations and many more!
Brad Smrstick
Room 130
All Sciences
An Introduction to the R.E.S.T. Program
The 2008 Summer R.E.S.T. (Research Experience for Students and Teachers) program featured ten pairs of HCPS students and teachers who collaborated on research projects with professors from the University of South Florida. Each student produced a final project to be entered into the 2009 Science, Math and Engineering Fair.
Donna Mayers and Participating Teachers

Room 141

Sessions 4 & 5 – Double Session Special Presentations

Marine Science, AP Environmental, Ecology and Biology
Field Collecting Permits for Florida’s Waterways (FMSEA)
Participants will learn the field collection laws of Florida’s waters and become state-certified collectors. A $25 permit fee will be paid for each participant by the science supervisor, Larry Plank. Space is limited to 20 participants.
Mike Mullins

Room 106

Integrated Science 1 and Biology
Join us for an in-depth review of the technology that supports the Miller & Levine Biology textbook used in our Integrated 1 Science course. Explore online assets including registration for the online text. Leave with your classes ready-to-go for the upcoming school year! Inquiry-based hands on forensic activities will be explored in the workshop along with the tech training!
Leslie Bettencourt, Pearson Prentice Hall

Room 128

Session 5: Special Topics, 2:00pm – 2:55pm
All Teachers

Feature Presentation – All Sciences
Controversial Issues in Science
This presentation will explore the many controversial issues science teachers face in the classroom and effective means to deal with students and parents on highly sensitive issues. Contrary to popular belief, evolution is not the only controversial issue in our classrooms!
Nancy Johnson Marsh and Lisa Culberson, HCPS

Auditorium

All Sciences
Gizmos
A presentation of Gizmos, the world’s largest collection of math and science simulations. Science Gizmos begin at grade 3 and continue through high school physics. Space is limited to 20 participants.
Pam Larson, Explore Learning, Jacksonville, FL

Room 222

AP Environmental, Biology, Ecology, Marine Science and Zoology
Bayside Field Studies with The Florida Aquarium
Learn how you and your students may be able to attend a hands-on field study for free! Through funding from the GE Fund, Hillsborough County High School teachers collaborated with the Florida Aquarium to develop a curriculum aligned with current marine science classroom content. Funding is available to take HCPS high school science students to a small spoil island in Tampa Bay, via the Bay Spirit catamaran for field studies and exploration of an island that has undergone significant restoration. Learn how you and your students can get involved!
Lauren Tyler, The Florida Aquarium

Cafeteria
AP Environmental, Biology, Ecology, Marine Science and Zoology
Wildlife Medics
From curing illnesses to new animal births, the daily experiences of veterinarians are challenging and rewarding. During our Wildlife Medics program, you will learn about the world of exotic animal medicine. Participate in this interactive session and experience what your students can discover during an educational field trip to Busch Gardens!
Cara Pussinen Treadway, Busch Gardens

Physics
Institute of Electrical and Electronics Engineers
Building A Robot Arm
The focus of the session will be to develop a robot arm using common materials. Teachers will explore design, construction, teamwork, and materials selection and use that they can share with their students. Lesson Synopsis: Participating teams of three or four students are provided with a bag including the materials listed below. Each team must use the materials to design and build a working robot arm. The robot arm must be at least 18 inches in length and be able to pick up an empty Styrofoam cup. Teams of students must agree on a design for the robot arm and identify what materials will be used. Students will draw a sketch of their agreed upon design prior to construction. Resulting robot arms are then tested and checked for range of motion and satisfaction of the given criteria.
Sean Denny, IEEE/FWCS

All Sciences
Soil and Water Conservation
Lisa Jannetti and Jeff Armstrong

Astronomy, Integrated Science 2 and Physics
What’s New on Mercury and Mars
NASA’s Messenger and Phoenix Missions
Bill Panczner, NASA Education and Public Outreach, Astrophysics Educator
Ambassador for NuSTAR, Sonoma State University, Rohnert Park, California

All Sciences
Working with Vernier Probeware
This session will be a hands-on endeavor in which the facilitator will introduce by example the way probes can be used in science laboratory settings. Students can be given time to explore and develop their own labs using the probes and software made available to them. This session is not only for physics teachers as the probes have many applications across the science curriculum as a whole. Beginning teachers and/or those who have not previously experienced probeware will benefit from this session.
Brad Smrstick, HCPS

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Donna Mayers and Participating Teachers

New Science Teachers (summer workshop attendees)
A forum devoted to answering key questions about HCPS for those who attended the summer new teacher content training workshop at Hillsborough High School.
Jerry Murray and Mary Rufener
New Science Teachers (those who did not attend summer workshops)
An Introduction to Hillsborough County Public School System
This session is required for all teachers new to the district who did not attend the summer new teacher content training workshop at Hillsborough High School.
Larry Plank, Secondary Science Supervisor

AP Sciences
A Colloquium on AP Sciences
Don Helman, Spoto High School

Closing Session and Farewells, 3:00pm – 3:30pm
All Teachers, Robinson High School Auditorium

A Celebration of Science:
Nancy Johnson Marsh

Nancy Johnson Marsh began her career in September 1970 as a science teacher at King High School. She also taught at Chamberlain High as well as Hillsborough High, her alma mater, and was one of the first faculty members of the new Jefferson High School. She received an appointment in October of 1974 as the Coordinator for Environmental Education. Effective July 1, 1997, she received an appointment to the Supervisor of Secondary Science, and remained in that position until her retirement on August 31, 2008.

Mrs. Marsh earned her B.A. in Zoology at USF and a M.S. degree in Bacteriology at the University of Florida.

She founded has been the Director of the Hillsborough Regional Science and Engineering Fair for 28 years, an organization that she founded in 1980. In 2006-2007, she received the State Science Educator of the Year Award from the Florida Association of Science Teachers and an award as the State Science Supervisor of the Year from the Florida Association of Science Supervisors.

Nancy plans on spending her retirement traveling the world and spending time with her two daughters, Meredith and Allison. She will be leaving for a two week adventure to England on August 15th, 2008.
Map of T.R. Robinson High School
Special Thanks to Robinson High School Administration, Faculty and Staff

Superintendent
MaryEllen Elia

Assistant Principal for Curriculum
Thomas D. Morrill

Assistant Principal for Administration
Marcia Monk

Assistant Principal
Laura A. Zavatky

Principal
Kellie Norton

Assistant Principals for Student Affairs
Jacqueline R. Allen
Roy C. Smay

Science Department Chair
Kristy Loman-Chiodo

Assistant Principal for Magnet Curriculum
Marcia Monk

Assistant Principal
Laura A. Zavatky

Assistant Principal
Kellie Norton

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Jacqueline R. Allen
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Marcia Monk

Science Department Chair
Kristy Loman-Chiodo

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