Florida Institute of Technology
High Tech with a Human Touch

the silver panther

professors emeriti newsletter

Volume III, Issue 1 **Fall Edition - 2009**

Welcome to the "Silver Panther"

The newsletter by and for the professors emeriti of Florida Institute of Technology.

Volume III of the Silver Panther

Welcome to the fall 2009 issue of the biannual newsletter for Professors Emeriti. This is the third academic year that we have published The Silver Panther. The newsletter is intended to help keep you up-to-date on activities, events, and news of fellow emeriti.

This issue is chock full of the adventures of world travelers, two biologists in the Galapagos, an engineer/administrator in Africa, a psychologist cruising through the Panama Canal, and yet another biologist spending his kids' inheritance traveling everywhere! And there is one contribution from an engineer with an idea for an alternative energy source. Thanks to everyone who contributed. For those professors emeriti who are reluctant to send news of their activities, I know most of us are very happy not to have deadlines and would rather spend our time playing golf in retirement. But we are not talking reviewed journal here. Dashing off an e-mail to a friend is more like it. So please do not hesitate to inundate me with information for the spring newsletter.

It has come to my attention that we are missing e-mail addresses of several professors emeriti who I am certain do have e-mail, for example Juanita Baker and Tom Peake. Also I am aware that many of you do not have e-mail capabilities. We try to send hardcopies of the newsletters and invitations to events to everyone who does not have access to e-mail. However, if you should receive a copy of this newsletter in snail mail, and you do have an e-mail address, please contact both Janet Woodyard (gwoodyard@cfl.rr.com) and myself (e-mail below) so that we can update our contact list. And please don't forget to send your comments, news items, interest articles, photos, or other items to Carol Philpot at drgender@cfl.rr.com.

Check Out the Professors Emeriti Web Page!

Be sure to visit the Florida Tech web site devoted to Professors Emeriti, updated by webmaster, Tom Stephens. Go to the quicklinks menu on the FIT home page and click on professors emeriti. You can also get there directly from the following address: http://research.fit.edu/emeritus/.

Dr. van Woesik Speaks at Fall Luncheon

On September 14, approximately thirty professors emeriti attended a delicious luncheon compliments of Dr. Anthony Catanese in the Board of Trustees Room of the Denius Student Center. Dr. Catanese preceded the scheduled presentation with an upbeat "state of the university" report. He announced that the Golden Anniversary Campaign's goal of $50 million had been exceeded by $9.4 million despite the recession. He described many buildings on campus either under construction or just completed, including the Ruth Funk Center for Textile Arts, the Scott Center for Autism Treatment, the Harris Center for Science and Engineering, and the Nathan M. Bisk College of Business. (See Schedule of events page 3 for dedication ceremonies). He also talked briefly about the possibility of adding a football team to the sports offered at Florida Tech, especially if we do acquire the Melbourne Central Catholic High School Campus which already has a stadium.

Anthony Catanese

Although such enthusiasm was a tough act to follow, Dr. Robert van Woesik from Biological Sciences rose to the occasion with his presentation entitled "Calm before the spawn: the long road in search of tropical reproductive schedules." Australian educated Dr. van Woesik has worked on the coral reefs of the Pacific, Indian and Atlantic Oceans since 1982.

His present research attempts to answer the question, "Will reef corals adapt to rapid climate change?" Adaptation is only likely if corals are able to reproduce. For decades researchers have known that most corals can synchronize the release of eggs and sperm into the water column, but were unsure how and why synchronization occurred. Van Woesik's new study explains why some corals achieve all their reproduction in a few nights, while others string out this effort over many months. The study, which is about to be published in the Proceedings of the Royal Society B, shows that corals synchronize egg and sperm release when regional winds are light. At such calm times, eggs and sperm are not scattered before they have the chance to unite. For example, the Galapagos Islands have light winds for several months and consequently a long reproductive season, whereas the Great Barrier Reef has a short-calm period, around November, and egg and sperm are consistently released over a few days.

One important understanding to emerge from this study is that reproduction of coral reefs is a very local event; eggs and sperm do not travel great distances to achieve fertilization nor do they travel great distance before they settle on a reef and grow into new corals. Indeed, calm periods favor success fertilization and local retention. The study strongly suggests that local coral reef protection will lead to local benefits - buying time for further adaptation.

Robert van Woesik

Guest Editorial
Alternative Energy Source: An Old Idea that Needs Revisiting

By Jack W, Schwalbe

An idea was proposed several years ago regarding energy production. Offshore Thermal Energy Conversion Plants were proposed in the early seventies. In fact, Florida Institute of Technology submitted a research proposal to the National Science Foundation in 1974 or 75. OTEC is a means of producing electricity, hydrogen gas and/or fresh water by making use of the temperature difference between the bottom waters and the surface. These plants could be anchored in the Gulf Stream, as well as other places, converting heat to electricity. They are expensive to build, but cost little to operate, only the cost of running some pumps. One plant offshore could produce enough electricity and fresh water to supply the needs of a small city the size of Melbourne, Florida, and at the same time, in a small way, help to reduce global warming. They don't take up valuable land areas as do solar and wind plants. There are no undesirable byproducts as there are for nuclear, coal, and oil plants nor are there CO2 emissions or any other kind, for that matter.

They don't diminish our food crops as do ethanol plants. They require no outside source of power as do many of the other alternatives, except to run the pumps.

Results of Northrup Grumman Engineering and Science Student Showcase

In April, Tom Marcinkowski requested help from the Professors Emeriti to review the projects submitted by undergraduate students in the Northrup Grumman Engineering and Science Student Showcase. Unfortunately, only Andy Revay participated in the event. Tom hopes we will be more active in future years and encourages those in the engineering and science fields to volunteer. The winners of the showcase are listed below.

Best of Student Showcase Winners

COS-4
Department: Biological Sciences
Student: Scott Burman
Faculty Advisor: Robert van Woesik
Poster Title: Investigating the Periodicity of Fisheries Yield in Lake Michigan

COS-7
Department: Biological Sciences
Student: John Majoris
Faculty Advisor: Ralph Turingan
Poster Title: The Effect of Shorelin Type on Diet and Growth of Juvenile Blue Crabs, Callinectes Sapidus

COS-10
Department: Biological Sciences & Mathematical Sciences
Student: Stephen Jones
Faculty Advisors: David Carroll, Mitch Rotenberg & Semen Koksal
Poster Title: Fertilization Signal Pathway in Starfish: Structure and Homology

COS-13
Department: Mathematical Sciences
Student: Cassie Bonadeo
Faculty Advisor: Semen Koksal
Poster Title: Stability Analysis of a Tumor Growth Model

COS-18
Department: Chemistry
Student: Stephanie Monaco
Faculty Advisor: Nasri Nesnas
Poster Title: Biodiesel From Nannochloropsis

COS-19
Department: Science & Math Education
Student: Jennifer Rodriguez
Faculty Advisor: Debra Blenis
Poster Title: How Can I Modify Teaching Strategies to Increase Student Engagement During Lectures?

COS-30
Department: Physics & Space Sciences
Student: William R. Price
Faculty Advisor: Hakeem Oluseyi
Poster Title: Measuring Red-Shift Drift

COS-31
Department: Physics & Space Sciences
Student: Brett Addison
Faculty Advisor: Samuel Durrance
Poster Title: Angular Momentum in Extrasolar Planetary Systems

Upcoming Events of Potential Interest to Emeriti

10/14-18 Homecoming
10/17 Keuper Statue Dedication
1:00 PM
10/22 Humanities Lecture Series
7:00 PM Hartley Room
Claire Strom: *Tick or Treat? Class Conflict and the Cattle Tick Eradication*
10/23 Dedication of Harris Center
2:00 PM Harris Building for Science and Engineering
10/30 Dedication of Scott Center
2:30 PM Scott Center for Autism Treatment
10/30 Fall Music Showcase
7:00 P.M.
Gleason Performing Arts Center
Florida Tech Orchestra and Choir: Scream-adonna
11/4 InSTEP Climate Change Seminar. 7:00 P.M.
Nick Shay, University of Miami
11/5 Humanities Lecture Series
7:00 P.M. Hartley Room
Roger Launius: *Why go to the Moon: The Many Faces of Lunar Policy*
11/14 President's Picnic
12:00-4:00 PM
Field by All Faith Center
12/2 Florida Tech Jazz Band and Latin Percussion Concert: *A Charlie Brown Christmas*
Location TBA
12/15 President's Holiday Party
3:00 – 5:00 P.M.
Hartley Room

Silver Panthers on the Go

My Galapagos Adventure: A Pilgrimage to the Biologists Mecca
By John Morris

In February of 2009 I had the opportunity to travel to the Galapagos Islands with my wife Kate, colleagues, some of my former students, Professor Emeritus Gary Wells, and Dr. Mark Bush who was the trip leader for this expedition. The trip was designed to explore a rainforest reserve in Ecuador and then fly to the Galapagos Islands and cruise among the islands.

Our hearty group of 16 travelers arrived in Guayaquil, Ecuador and immediately starting exploring the city and Cerro Blanco a local rainforest reserve. As I stepped off the bus at the reserve, the buzz reminded me I was in the tropics and brought a renewed appreciation of Deep Woods Off insect repellant. The tour of the reserve reintroduced me to the characteristic plants, birds, mammals, and insects of the lowland tropical rainforest. It was like visiting old friends I had not seen for a few years.

The group arrives on San Cristobal

The following morning we made the 600-mile flight to the Galapagos Islands. We landed on Isla San Cristobal (Chatham) the same island that was Charles Darwin's landfall in 1835. Over the next four days we visited four other islands and the Charles Darwin Research Station on Isla Santa Cruz

(Indefatigable). Our group activities included snorkeling with Galapagos sea lions, Galapagos penguins and an array of tropical fish. When we were not in the water we were hiking on the islands exploring lava landscapes, cactus forest and an array of bird species including the small finches that figured most prominently in the formulation of Darwin's theory of evolution. Our visit to the research station brought us up close and personal with the Galapagos giant tortoise. Each evening Dr. Bush would give a presentation on the ecology and evolution of the Galapagos

For me the trip was a pilgrimage, I had the opportunity to observe the islands and some of the species that were important in the development of the theory of evolution. At times during the trip I wondered if Darwin stood where I was standing and were we seeing the same vistas and species at different points in time.

Sea Lions on the Galapagos

A Vacation Trip in 2009

By Eleanor Storrs

In June of this year, my sixteen year old granddaughter Hannah and I took a trip to the Galapagos Islands. We were accompanied by colleagues from the American Museum of Natural History and the California Academy of Sciences and their families. A wonderful time was had by all.

The Galapagos, of course, are where Charles Darwin began thinking seriously about evolution, and the various genera and species here, unique to these volcanic islands far out in the Pacific, are testimony to his theories on which the biological sciences are based.

We had twelve days traveling from little island to little island on our little expedition ship, seeing first hand the flora and fauna on land and in the waters around the islands. Hannah enjoyed every minute of her snorkeling among interesting fishes, young sea lions, Galapagos penguins, marine iguanas and sea turtles. It reinforced her desire to become a marine biologist, with her eyes now looking towards Florida Tech.

Dr. Enstice Goes to Africa

By Richard Enstice

I love to travel and see parts of the world I have read about, but never saw. However I do not like groups of travelers that I do not know, or have to wait for and rely on. I found a recent solution to all those points.

John Morris, Professor Emeritus offered to let me travel with his last official class that studies eco-systems in Africa, on their field trip to observe what they had learned in the classroom. In order to prepare for this adventure, I attended his class on the five ecosystems through the spring semester. We were going to Kenya to observe all five systems and see the flora and fauna involved.

John has been taking classes to Africa for years. He has learned that a successful trip requires excellent drivers who not only offer good transportation, but also serve as guides and cooks. We were spending two and a half weeks in the African plains, forests, and hills, exploring the animals and birds up close and personal. I will give you a few examples as to the caliber of the drivers and the experiences they provided to our group. Each vehicle can seat eight people and the driver. All seats are at a window and the vehicle roof slides up to allow you to stand, take pictures, and be shielded from the sun at the same time. We had four vehicles and they worked independently to find animals, calling the others when something

interesting was spotted to come and enjoy the experience.

Dick, fellow travelers, and "SuperDriver"

Every day we left camp at daylight for several hours to observe animals and then again in the late afternoon till dark. Our drivers were very experienced. Several times we had seen several hyenas in the distance but we could not close the gap for a good close picture. One day our driver, who had seen several hyenas in the distance, drove to where he had seen them and stopped. He said "We will wait here for a while". As the hyenas started to approach the vehicle from a distance, we over-anxious photographers were taking pictures as if it were our last chance. The driver said, "Wait. They will come to us." And he was right. In the course of ten minutes they closed the gap to one hundred yards. Then a single female approached the truck. She came up to the road and dashed under a drain pipe under the truck. She had a den in there and several pups, which the driver had figured out when he had seen hyenas in the same area for two days. He had made a very accurate educated guess as to their den's location.

Another day we were looking for elephants and had seen several families. We found an extremely large herd that was on both sides on the road and according to the driver it was the largest family herd he had ever seen. He stopped on the roadway and said, "Let's be still and the dominant female will come to us". In about five minutes we heard a very loud bellow from the female who appeared about one hundred yards from us. We proceeded to take pictures above the protest of the driver. She closed the gap to fifty yards and was loudly threatening. When the driver moved the truck forward about ten yards, she became very quiet and docile. She then walked behind the truck to the other side of the road and bellowed once more with her trunk in the air and her ears wide and alert. It seems the driver had parked on the trail that she used to lead the herd to water and half the herd could not follow her to water. She was effective in getting us to move out of the herd's way and our driver was effective in helping us get some fantastic pictures of her (see below).

Elephants crossing the road

Another example was when we were trying to get close to lions. We had seen them from a distance but not up close. We were perched up on the top of a hill. We could see for miles. The driver asked, "Where do you think the lions are?" We didn't have a clue. Then he said, "Where are the animals?" They were all over that countryside. Then he said, "Where are there no animals?" We pointed to a small stream with trees on both sides of the banks. He started down to the stream because he knew that is where the lions had settled down during the middle of the day. Just before we got to the stream, he made a hard right turn and stopped about ten feet from two large lions mating. They were not concerned by the vehicle and we proceeded to take a lot of pictures of the two of them. As we left to go to camp, we passed another male lion traveling towards the other two. The driver said, "Remember this one. He will be with

the female in the morning, as the other male is tired." Yes in the morning, when we went back to the same area within a few hundred yards, there was the new male and the female. Again the driver was right.

On this trip we saw every animal we had studied except the leopard. We even saw a black rhino and several six foot chimps, both in protected reserves. All the other animals were in the wild. What an exciting and fulfilling adventure! Thanks John.

John Morris and Gary Wells in Africa on Previous Trip in 2006

News from the Silver Panthers

Jack Schwalbe writes, "In February 2009, my wife, Lyndell, had open heart surgery. Her aorta shredded and a piec had to be replaced. She was given a new heart valve and a single by-pass. The operation lasted seven hours. In July she was readmitted to the hospital with congestive heart failure. In August, she was readmitted with a stenosis in her carotid artery. We are pretty much housebound until she gets stronger." We are all hoping she gets better soon, Jack.

Likewise, Tom Stephens' wife, Lois, recently had brain surgery to remove a benign tumor and is presently recovering. Tom and Lois spend a great deal of time at their home in New Mexico and will be returning as soon as Lois is better.

Dr. David Clutterham, Former Mathematics and Computer Sciences Department Head, died in May, 2009.

On a happier note, Gary Wells says he is spending his kids' inheritance traveling all over the world. In addition to accompanying John Morris to Africa in 2006, Gary has also visited the Galapagos, Costa Rica, and done a Vantage River Cruise through Germany. He has plans to go to the Yucatan, Alaska, and on another riverboat tour from the Black Sea to the North Sea this coming year.

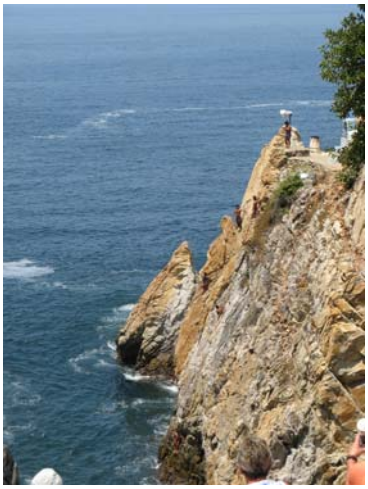
Gary Wells in Amsterdam

Gary takes a riverboat tour in Germany

Gary & wife, Beverly at Paos volcano in Costa Rica


Carol & Tom on Aerial Tram over the Costa Rican Jungle

Carol Philpot and husband, Tom Jensen cruised through the Panama Canal from Ft. Lauderdale to San Diego in April stopping in Grand Cayman, Columbia, Costa Rica and Baja Mexico. Tom, being an avid boater, took a million pictures of the six locks, but Carol was more fascinated with the squealing monkeys in the jungle as they went through Lake Gatun. Other highlights include taking the aerial tram (no, not the zipline) over the jungle in Costa Rica, watching the cliff divers in Acapulco, buying Australian opals in Huatulco, Mexico (don't ask), and relaxing in Cabo.


Acapulco Cliff Divers


Carol Supervising the Canal Transit


Cabo San Lucas

Gary N. Wells: Leaving a Legacy A Profile

When Gary Wells was finishing up his postdoctoral fellowship from NIH at the University of Oklahoma in 1973, he received a phone call from a revered plant biologist, Joe Varner, alerting him to a position opening up in a brand new biology department at a small Florida school. He had already applied for a position at Boston College and another at the University of Georgia, but was interested in interviewing where his esteemed colleague knew the department head as well. He was offered all three positions. At Boston College he would not have been able to teach the courses he liked the most, since it was mainly a pre-med program. He did not like the area around Athens, Georgia, and was particularly disturbed by the poor reputation of the public school system there. On the other hand, Florida Institute of Technology was a small school with a developing department in Brevard County where the school system was excellent. He reasoned that he would have more influence over the direction the department took at the small school. His decision was made. And he was not disappointed!

When he arrived at Florida Tech, the biology department was in Building 6 of the quad. The roof leaked and the phone system was compromised because of water damage. Within a few years there were 575 students in biology and the teaching loads were incredibly heavy. Gary remembers that his wife said she knew she was married because there was a man in bed with her in the morning when she woke up! During those years, he taught two graduate courses at night, one on Monday and Wednesday, the other on Tuesday and Thursday. He found himself on a first name basis with the cleaning crew, since he was always there when they arrived late at night. During the day, he taught undergraduate courses with as many as 80 students in two sections of plant biology, biochemistry, or cell biology. There were 24-25 sections of lab crammed into a very small building. And somewhere in the middle of all that, he conducted research, wrote proposals, and prepared papers for presentation and publication.

In the early days, there wasn't a lot he could do about the teaching load. But he did fix the roof! Although facilities had tried to repair the roof numerous times, the leak persisted. One night, Gary remembers, he and Kerry Clark and two graduate students applied a five gallon bucket of Black Magic to the roof at midnight. It never leaked again! This was typical of the hands-on involvement during the early years at Florida Tech.

Gary remembers fondly that the graduate students when he first arrived were practically the same age as the assistant professors. This resulted in many great parties, without compromising the classroom experience.

Over the years, Gary moved through the promotion stages of associate professor and full professor in a timely manner, and finally became Department Head in 1985, a position he held until his retirement. As department head, he worked to lower the course load so that faculty could focus on research. In return for the low course load, he demanded that faculty prepare grant proposals, papers for publication and presentation, and conduct research. The faculty rose to the challenge and biology led and continues to lead the campus in research production.

Gary was not disappointed in his expectation that he would have influence on the direction his department took if he

accepted the job. The aspect he liked the most about Florida Tech was the fact that he had a great deal of input --- from the selection of journal subscriptions in the library to the designing of laboratories and buildings, to planning the future of his department. He was asked his opinion and was listened to. If he complained, the problem would be addressed. He remembers preparing the five year plans, knowing that there was no money for projects, but also knowing that the administration used the plans to decide the future of Florida Tech and where to put the little money they had. The faculty was the source of their plans for the future. This is often not the case in large universities.

One of the most exciting projects Gary participated in during his tenure at Florida Tech, was the hosting of the European Space Agency (ESA) on campus in preparation for the Columbia Shuttle Mission in 2003. During that time, due to the 9/11 attack on the Twin Towers, security was extremely tight at NASA, to the point that anyone without US citizenship had to be escorted to the restroom. It was untenable for the 100 scientists and technicians from Europe to conduct their research in preparation for the shuttle flight on NASA grounds. After hearing about the problem from Frank Kenney, Gary wrote a proposal for hosting the scientists on our campus and successfully presented it to the ESA in Holland. Boeing, United Space Alliance and Space Habs all participated in the community effort to make this work. Eighty biological experiments were prepared for the Columbia flight at Florida Tech and transported to NASA. A miniature control room was created in a classroom so that communication with the astronauts would be possible. The European scientists had all the privileges of Florida Tech faculty which made it easier for them to conduct their experiments and that created excellent camaraderie between them and the scientists at Florida Tech. Unfortunately, in the end, Columbia disintegrated on re-entry and everything was lost. Nevertheless, the interaction with the ESA was one of the highlights of Gary's career.

Gary is also proud of his part in writing the proposal for and designing the new Life Sciences Building which was opened in 2001. Since 1987, Gary had been writing proposals for a new building. His faculty was actually becoming annoyed with him for asking them to help design buildings that never came to pass. But in 1997, Dr. Weaver personally presented a proposal to the Foundation for both an engineering building and a science building which was accepted.

However, when you listen to Gary talk about his career, you realize that *people* were most important to him, especially the people he influenced in a positive manner. He talks about the administrators, namely Andy Revay and Tom Bowman, with whom he worked for many years, who made him jump through hoops, but would always listen and go forward with his ideas. He recounts a story about a time he and Andy were having an argument about something and then things got quiet. Andy's secretary, Margie, opened the door and asked if she needed to call an ambulance. She expected to see them wrestling on the floor. But Gary had a history of doubling the money he asked for and that made him a good risk.

Among Gary's fondest memories are ones of watching the faculty, most of whom he had hired, grow and develop, get their first grants, get promoted, get published. Or of seeing his graduate students get a job where they were advising much more senior people how to do a job. Or of witnessing his undergraduates in Tri-Beta, an honorary biological society which he began on campus, win all the awards in research at the district meeting. Or of seeing a dyslexic student who had struggled to get an education until Gary modeled the flexibility to alter the teaching method to meet his needs for the rest of the faculty, get a job at Harris as a technical writer. It was the personal relationships that really mattered to Gary. And that is where he left his biggest legacy --- with the generations of biologists to come.