BIOMEDICAL EXPLORATIONS: BENCH TO BEDSIDE

2012 PROGRAM BOOK

UNIVERSITY OF FLORIDA
CENTER FOR PRECOLLEGIATE EDUCATION AND TRAINING
Biomedical Explorations: Bench to Bedside

A Partnership Program

University of Florida

Funded by a precollege award from:

SEPA
SCIENCE EDUCATION
PARTNERSHIP AWARD
Supported by the National Institutes of Health

With additional support provided by:

UF
Center for Precollegiate
Education and Training
UNIVERSITY of FLORIDA
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Welcome to the Bench to Bedside Summer Institute! We are so excited to have the opportunity to work with fantastic high school science teachers from across the state of Florida in this partnership. We hope that you gain many new experiences during your time at the University and are able to translate the current research into your classroom curriculum.

As partners, your feedback is absolutely essential. The program will continue to grow with a new cohort of teachers each year for the next two years, and we hope to improve the program each time. Your comments will help make that happen.

We look forward to our two-weeks together this summer and also to continue communications with you as we collaborate to enrich science teaching and learning and to better prepare and inspire our young students for the diverse array of career opportunities in science and technology.

Go Gators!

The CPET Staff
Biomedical Explorations: Bench to Bedside

Biomedical Explorations: Bench to Bedside is an exciting new opportunity for high school teachers, funded by a Science Education Partnership Award from the National Institutes of Health NCRR, to engage in innovative and continuing professional development.

Bench to Bedside connects researchers in interdisciplinary biomedical sciences with high school teachers to promote students’ interest in and preparation for bioscience careers along the continuum of translational research—from discovery to production of medicines and therapeutics. This innovative program integrates experiences from a summer Institute into classroom action during the school year.

During the Institute, an experimental sequence in basic science and clinical and applied research environments will illustrate scientific content, pedagogical methods, career options, and conceptual and technological interrelationships within translational research. Teachers will work with science, industry and education researchers to develop lessons and laboratory exercises that convey the principles of translational research and drug development in the context of career choices. Teachers also become researchers in their own classrooms as they use tools developed during the institute to study the effectiveness of instruction on student learning outcomes.

During the school year, research proposals, resources, formal presentations, review of classroom outcomes and incentives for ongoing professional development will provide continuing support and encouragement to incorporate scientific processes, real-world skills and enthusiasm for bioscience careers into schools in rural and economically disadvantaged settings.

The project supports science teachers with opportunities for personal enrichment and professional advancement in biotechnology education and empowers them as agents of change in classrooms. It draws on all components of medical and biotechnology research and education at the University of Florida to further the recruitment, education and certification of high school teachers, especially those from rural and underserved communities.

Teacher responsibilities:

- Attend the two-week Summer Institute at UF (July 15- July 27) and create an Action Proposal, incorporating current research focused on emerging pathogens into a classroom-ready unit
- Implement Action Proposals in classroom with graduate student assistance; provide inservice training to other school and district teachers; share progress with B2B program participants and coordinators.
- Present the interim results of Action Proposals at the annual Florida Junior Science, Engineering and Humanities Symposium (JSEHS) held at UF (February, 2013)
- Prepare a final written report detailing the outcomes of the Action Proposal (April, 2013)

Upon successful completion of the Bench to Bedside program requirements, teachers will receive:

- Access to biotechnology equipment lockers and professional support for classroom activities
- A $200 grant to implement action proposals
- Continued communication and assistance from UF
- Expertise and support in modifying curricula aligned with national and state standards
- Priority seating in teacher workshops offered by the UF Center for Precollegiate Education and Training
- Opportunity to participate in summer research internships
- Three credits towards a Certificate in Biotechnology Education, further graduate studies, and/or Florida teacher recertification.

Funding support provided by:

SEPA SCIENCE EDUCATION PARTNERSHIP AWARD
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UF UNIVERSITY OF FLORIDA
The Foundation for The Gator Nation

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UF CPET is the University of Florida’s “umbrella” for the articulation and transfer of current science, technology, engineering and mathematics (STEM) by linking research faculty and students with K-12 school teachers and students through a variety of campus and statewide programs. For almost half a century, CPET has offered discovery-based learning opportunities for secondary school students and, in more recent years, for teachers. The infrastructure of this University Center allows efficient and effective use of resources to administer programs on campus and throughout Florida. Its programs incorporate bridging activities that include teachers, researchers and industry professionals in preparing and delivering effective STEM education and career opportunities from middle school through graduate school. National and state science education standards govern CPET instructional programs. Activities are designed around National Research Council and Florida criteria for students to learn skills and acquire knowledge, and for developing curricula.

As a Center in Academic Affairs, CPET involves more than 300 UF scientists and engineers annually in its outreach programs. CPET also has an established history of collaborations with local, regional and state schools, and with educational and scientific professional societies. Professional development programs supported by NIH NCRR, HHMI, NIEHS, NSF, Woodrow Wilson Foundation and the University of Florida expand the content knowledge, skills, resources, and enthusiasm of in-service teachers. They also forge long-term relationships with researchers that result in converting new expertise into measurably successful new learning modules for students.
2012 PARTICIPANT INFORMATION

Mr. Stace Alcala
Mulberry Sr High School
Polk
stace.alcala@polk-fl.net
Anat/Phys, Hon Biology (10-12)

Ms. Bisogno
Celebration High School
Osceola
bisognoj@osceola.k12.fl.us
Physical Science, IB Biology (9-11)

Ms. Leah Bobula
Atlantic Coast High School
Duval
bobulal@duvalschools.org
Chemistry, Forensic Science (10-12)

Ms. Lauren Case
South Fork High School
Martin
casel@martin.k12.fl.us
Biology 1, Marine Science (9-12)

Ms. Edna Coleman
Lake Minneola High School
Lake
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Biomedical Sciences and Allied Health

Ms. Naomi Cowie
Lake Howell High School
Seminole
naomi_cowie@scps.k12.fl.us
Chemistry (9-12)

Mr. Samuel Crupi, Jr.
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Orange
samuel.crupi@ocps.net
Chemistry (10-12)

Ms. Karen Smith-Elvie
JP Taravella High School
Broward
karen.m.smith@browardschools.com
Chemistry, Forensics (10-12)

Ms. Alana Fraddosio
Pinellas Park High School
Pinellas
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Chemistry (10-12)

Ms. Terry Harvey
Nathan B. Forrest High School
Duval
mterryharvey@aol.com
Anat/Phys, Dual Enrollment (11-12)

Mr. Greg Kaplan
Freedom High School
Orange
Gregory.kaplan@ocps.net
Biology (9-12)

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Colonial High School
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Biology, Chemistry (10-12)

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Martin
burneyleon@gmail.com
Biology, Anat/Phys (9, 11-12)

Mr. Joe Mallon
Island Coast High School
Lee
josephcm@leeschools.net
Solar Energy, Marine Sci, Aquaculture (9-12)

Ms. Joanie Martir
Harmony High School
Osceola
martirjo@osceola.k12.fl.us
Anat/Phys Hon (11-12)

Ms. Melissa Quinlan-McManus
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Lake
guintam@lake.k12.fl.us
Biology Hon/AP (9-12)

Ms. Vanessa Moosavifazel
Lake Howell High School
Seminole
Vanessa_moosavifazel@scps.us
Chemistry, Research II

Ms. Paula Nixon
Eugene J. Butler Middle School
Duval
nixongp@duvalschools.org
Science Coach

Ms. Gabrielle Powers
West Shore Jr/Sr High School
Brevard
westshoreswim@yahoo.com
Reg & Hon Chemistry (9-10)

Ms. Eileen Roach
Winter Springs High School
Seminole
Eileen_roach@scps.k12.fl.us
Biology, Anatomy

Ms. Samuel Crupi
Broward Schools
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Chemistry, Forensics (10-12)

Dr. Kaye Sheets
Patrick Henry High School
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ksheets@henry.k12.ga.us
Biology, Physical Sci (9-12)

Ms. Susan Shepard
Jupiter Community High School
Palm Beach
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Reg & Hon Biology (9-10)

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Anat/Phys Honors, AP Bio

Ms. Jill Stephens
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AICE Marine Science, AICE Env. Management, Biology I (10-12)

Ms. Anna Stevens
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Forensics (11-12)

Mr. Craig Tench
Eastside High School
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Marine Science, Biology (9-12)

Ms. Tomeka Thompson
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Alachua
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Biology I, AP Env Science (9-12)

Mr. Ted Victor
McArthur High School
Broward
thierryfyjuno.com
Marine Science, Earth Science (9-12)
2012 PARTICIPANT BIOGRAPHICAL SKETCHES

Mr. Stace Alcala, Mulberry Senior High School

Biographical Sketch: Stace Alcala is a veteran biologist of 25 years. Instruction in Anatomy/Physiology in both high school and collegiate environments has led him to some interesting facets of the field. As an adjunct professor at the Univ. of Indianapolis, he was involved in human remains recovery in the Forensic and Anthropology lab. As well, his own collection of skeletal rearticulations can be viewed within his high school classroom. In addition, Mr. Alcala enjoys spending time in the steamy jungles of Costa Rica. An avid herpetologist, his classroom has also been home to wide variety of poison dart frogs, snakes, lizards and tarantulas. Currently working on an emu husbandry program at MHS, both aqua and hydro-culture gardening, and several osteology projects, Mr. Alcala is most interested in stimulating students into the biology field.

Dr. Janet Bisogno, Celebration High School

Biographical Sketch: I am married and have two children, ages 25 and 26. I am a registered nurse but have been teaching science for the last 15 years. My husband is a physician in Kissimmee, Florida and my son works for Tissue Net, a company that prepares tendons and bones for grafting. My daughter has a degree in voice and a minor in theater and is currently in culinary school.

Ms. Leah Bobula, Atlantic Coast High School

Biographical Sketch: I was born and raised in Harrisburg, PA. I attended Duquesne University where I received a BS in Biology with a minor in Biochemistry as well as an MS in Forensic Science and Law. After graduating I decided to move to Florida to become a teacher. I attended UNF and completed their EPI program. I started off part-time at Douglas Anderson School of the Arts. This is where I realized my love of teaching. I was able to secure a full-time position at the brand new Atlantic Coast High School last year. This was the first high school built in 20 years. Although it has been chaotic at times I truly feel as though we are creating a wonderful learning environment for our students. My goal is to have students have a better understanding of science and be able to share their knowledge with the outside world. I currently teach Chemistry and Forensic Science although I have also taught Biology and Earth Space in previous years both at the standard and honors level.

Ms. Lauren Case, South Fork High School

Biographical Sketch: I attended the University of Florida where I completed my undergraduate studies in Wildlife Ecology and Conservation. After several experiences working with K-12 students, I decided to continue my studies at UF and eventually received my Master's in Science Education. I spent some time teaching in the Gainesville area, but longed to be back on the coast after spending the better part of a decade in north central Florida.

Ms. Edna Coleman, Lake Minneola High School

Biographical Sketch: I am a native of Leesburg, Fl. I spent 21 yrs away from the area due to military commitments (USAF enlisted and as a military spouse). I come to the education arena with over 35 years of medical experience and knowledge. I count it a privilege to be able to share this knowledge and experience with the students. My goal is to be a positive role model and to encourage the students to be "all that they can be" by giving their best.
Ms. Naomi Cowie, Lake Howell High School

**Biographical Sketch:** My name is Naomi Cowie and I teach chemistry at Lake Howell High School. I received my degree in chemistry education from the University of Central Florida. I love chemistry and enjoy educating students in hopes of promoting an interest in science for future scientists and medical professionals.

Mr. Samuel Crupi Jr., Colonial High School

**Biographical Sketch:** I am currently a Chemistry Teacher at Colonial High School in Orlando, Florida. I attended Mercer University in Macon, Georgia. Although my passion is science my degree is in Economics. My undergraduate advisor thought it was a great fit because, while I minored in Chemistry, he thought I could bring a more empirical bias to the world of Economics. Hopefully, by now, I graduated from the University of Central Florida with my Masters in Science and Mathematics Education. This degree is the culmination of my hard work and dedication to the art of teaching. I am active in the Florida Science Olympiad and have acted as a student coach and as a presenter for the Science Olympiad Coaches Conference. I look forward to being part of this program for somewhat selfish reasons. I have a passion for science. It is this passion that enhances my effectiveness as a teacher because I am able to share this passion with my students every day. My love of science is bolstered through the wide variety of courses I have had the opportunity to teach. I have taught Life Science, Physical Science, Earth and Space Science, Integrated Science, and Chemistry to grades 6-12. I love chess and astronomy. I think both should be part of the required curriculum.

Mrs. Karen Smith-Elvie, J P Taravella High School

**Biographical Sketch:** I am a native of Jamaica, I migrated to the United States in 1992. I completed a the 2nd semester of my junior year and my senior year at Boyd H. Anderson high school after which I attended Broward community college then transferred to FAU to complete my undergrad degree in Chemistry.

Mrs. Alana Fraddosio, Pinellas Park High School

**Biographical Sketch:** I attended and graduated for SPC, Saint Petersburg College, with a Bachelor of Science in Secondary Education with an emphasis in Biology. My focus has been chemistry since I first started school. I have taught both Biology and chemistry, regular and honors courses, for the past 3 years. This is my first year teaching chemistry exclusively.

Ms. Terry Harvey, Nathan B. Forrest High School

**Biographical Sketch:** I am currently teaching at Nathan B. Forrest High School. I began my teaching career where I was the expert in the room and talked continually to students and expected them to learn from me because I have such a great passion for science and teaching. Many did and many did not. I left high school education for the business world where I experienced interactive adult learning strategies where I eagerly engaged these ideas as a Sr. Training Manager developing and facilitating training in a major business. I returned to high school teaching and discovered a surge of professional development centered around inquiry science classrooms. I embraced this trend and continue to seek new and exciting ways to engage students. I have chosen to work in low performing schools for the past 11 years. The daily challenges are sometimes overwhelming, but the rewards that come when the students who get excited about learning science, defines my mission. I have taught almost every offered science course except physics and do not know what topics I enjoy most. I am constantly amazed at all we are learning in the various fields of science.
Ms. Jessica Johnston, Colonial High School

Biographical Sketch: Graduated pre-med but due to family situation transitioned to teaching. While in college I worked on Professor's research involving toxins. Now considering pursuing a masters in Biotechnology.

Mr. Greg Kaplan, Freedom High School

I am originally a Sport and Fitness major with a double major in Biology. I am very interested in Biotechnology and learning about it. I'm also a volleyball coach.

Ms. Chanda Leon, Jensen Beach High School

Biographical Sketch: I am Chanda Leon, M.A.-Ed. I currently teach at Jensen Beach High School located in Jensen Beach, Florida. I recently relocated to Martin County Public Schools after my husband was selected as the head basketball coach for Martin County High School. Prior to relocating, I taught science for 10 years in the Duval County Public School System in Jacksonville, Florida. I have enjoyed my years of teaching high school students. It has been a great pleasure watching students mature academically from the beginning of the year to the end of the course. I have been fortunate to have students enter my classes as 9th graders, and again as 12th graders, graduate high school, graduate college, and return to their alma mater as teachers. Although the rewards are delayed, I have had many students return to inform me that although I was tough on them, the information they learned while in my class has helped them make decisions in college, family, and careers.

Mr. Joe Mallon, Island Coast High School

Biographical Sketch: I was born in Sea Isle City, NJ and moved to Florida in 1993. I now live in North Fort Myers. I was a commercial driver and underwater welder before taking early retirement. I came out of retirement to become a teacher and follow my daughter through school. She is now a student at University of Florida. I teach in the Academy of Natural Resources where we teach sustainability through aquaculture, aquaponics, and alternative energies. Next year we are adding biotechnology.

Ms. Joanie Martir, Harmony High School

Biographical Sketch: My name is Joanie Martir. I am from Kissimmee, FL where I graduated High School in 2001. I attended the University of North Florida, where I earned a B.S. Biology and a B.S. Psychology. This is my fifth year teaching Anatomy & Physiology at Harmony High School in Harmony, FL and I love my job! I have a miniature schnauzer named Charlie Brown, who will turn 11 this year. I enjoy painting and wine tasting. I have attended and highly enjoyed the UF Mini-Med School for the past four years in a row. This is the first Summer Institute I attend.

Mrs. Melissa Guinta-McManus, Mount Dora High School

Biographical Sketch: I enjoy learning as much as I enjoy teaching. I have spent the last five years developing as a teacher and am finally seeing some benefits in the classroom. I like to stay busy and therefore spend time completing additional education or trainings or can be found on the sailboat my husband and children and I are revamping for the high seas. We are constantly on
the move or at the beach, but still manage to have backyard chickens and a garden in Umatilla, Florida.

Mrs. Vanessa Moosavifazel, Lake Howell High School

Biographical Sketch: My name is Vanessa Moosavifazel and I teach Chemistry and Research at Lake Howell High School. I love doing research and sharing that love of research with other students, which is why I teach the research class at my school.

Mrs. Paula Nixon, Eugene J. Butler Middle School

Biographical Sketch: I am married and the mother of 5. I have over 17 years of educational experience at the secondary and elementary levels. Currently, I am the Science Coach for a challenged school. This is my second year as Science Coach. I am a National Board Certified Teacher for Adolescent Science. I have also served as Department Chair for Science, Curriculum Integration Specialist for the IB program, Assistant Principal, and Science teacher.

Ms. Gabrielle Powers, West Shore Jr/Sr High School

Biographical Sketch: I am originally from Central New York, and moved down here after graduating college to get away from the cold weather!!! This has been my 10th year teaching science. I have taught a range of science classes from Integrated Science III, to Honors and Regular Biology, to Honors and Regular Chemistry. In addition, I am a Science Research Teacher/Assistant. I attended UF’s CPET program ICORE: Emerging Pathogens last summer, and am very interested in returning this summer for another program to help enhance my background and provide my students with "real world" applications of some of the things they learn in their current science classes.

Ms. Eileen Roach, Winter Springs High School

Biographical Sketch: I moved to Florida- fresh out of college from Puerto Rico via Maryland- 34 yrs ago and began my teaching career. I am continually amazed by the new findings in science and technology and by how fast the field continues to change-- which makes me feel like I am chasing a moving train. My goal is to stay as informed as possible in order to give my students a love of science and the most current information I can bring with my limitations.

Dr. Kaye Sheets, Patrick Henry High School

Biographical Sketch: Teaching science is a passion for me, especially life and earth sciences. There is so much to learn and explore. I have been teaching public school for over 25 years in Georgia and the last ten at an alternative high school. I especially enjoy this environment because it is my opportunity to sow into the lives of students that need a second chance (or 3rd or 4th). Many of my students come from an economically challenged background and are already "in the system" legally. This alone motivates me to find innovative and exciting methods that I can integrate into the curriculum to inspire learning. Optimist that I am, I still hope to change the lives of my students.

Mrs. Susan Shepard, Jupiter Community High School

Biographical Sketch: I grew up in Miami and headed off to Emory University as an undergraduate where I began doing neuroscience research. Thinking I would be a research scientist, I received a graduate degree from Emory and an M.S. from the University of Miami. While in the lab, I found that I prefer working with students and headed into the classroom to teach. I currently teach 9th grade biology at Jupiter High School, having taught many other classes at the middle and high school level. As
a Palm Beach County teacher, I love the opportunity to spend my vacations traveling. Last summer, I spent in Europe, winter was spent cruising in the Caribbean, and over spring break, I walked along the Great Wall and saw the sites of Beijing and Shanghai.

Dr. Claudia Singkornrat, Pompano Beach High School

Biographical Sketch: My name is Claudia Singkornrat and I teach at Pompano Beach High School. The classes I teach are AP Biology and Anatomy and Physiology Honors.
I am originally from Colombia/South America, but both of my parents are German. I came to the United States to go to College and never looked back. I have a BS degree in Microbiology and a Doctor of Chiropractic degree. After graduating, I practiced Chiropractic for about 10 years. But teaching is my passion so I changed fields and I have been teaching for 10 years now. I still feel it was the best decision of my life. I am married and have two girls (16 and 22 years old).
I like Biotechnology and am eager to bring the newest information to my students. I participated in the Emergent Pathogens Program here four years ago and it was an amazing experience. The program leaders, teachers and colleagues were great and we obtained so much knowledge and applications that we were able to bring home! I am looking forward to this program and to interact with other people that like Biotechnology.

Ms. Jill Stephens, North Marion High School

Biographical Sketch: Jill Stephens taught agriscience and served as FFA sponsor at Forest and North Marion High Schools for 24 years. For the past eight years she has taught a variety of science courses at North Marion High School. Jill was part of the team that developed the state standards for biotechnology.
Jill was a member of the first ICORE class in 2008 and has since participated in summer internship experiences. In 2010, she worked with Dr. Andrew Kane in the Aquatic Pathobiology laboratory at UF and developed several experiments and protocols for establishing and maintaining an oyster aquarium and testing filtration rates at varying temperatures. As a result of this experience, Jill was a presenter at the 2010 International Symposium on Aquatic Animal Health.
During the summer of 2011, Jill worked in Dr. Anita Wright’s laboratory studying various bacteria. Several units of study including experiments were designed with an emphasis on shellfish and human health. Several marine science student research projects were developed from this experience and one project was selected to compete at the 2012 International Science Fair in Pittsburgh in addition to the US Stockholm Water Prize, and Biogeneius competitions.

Jill was also selected by NOAA as a Teacher at Sea in 2009. She spent three weeks on the USS Rainier on a research cruise in Alaska conducting a hydrographic survey.

Ms. Anna Stevens, Timber Creek High School

Biographical Sketch: Moved to America from France about 20 years ago as an exchange student
BS in Microbiology from The University of Michigan
Master degree in Education from National Lewis University, IL (endorsed in Biology and Chemistry)
10 years of teaching experience in High School and 2 years in College
Lived in Orlando for the last 6 years
Teaching Honors Biology and Honors Forensic Science at Timber Creek High School
Developed and taught common Biology labs for the department
Recipient of two Progress Energy and Science grants, OCPS Learning and Leadership grant, and two SAC grants
Member of the School Library Media Advisory Committee
Member of Keiser University –Orlando Advisory Board Committee
Mr. Craig Tench, Eastside High School

**Biographical Sketch:** I am 54-year-old divorced dad with one son attending college. I teach High School AP Environmental Science, Biology, Earth Space Science and Physical Science. My undergraduate degree is Bachelor of Science Microbiology and I have a Masters in Business Administration (MBA). I am a third career teacher. I managed a university Microbiology Lab, was a Sales Representative for a science supply company, and have been on the faculty of Eastside High School in Gainesville Florida for 11 years. I am currently the Science Department Chair and SAC Vice-chair. I also serve as the Athletic Business Manager. During spring and summer break I am a Marine Science Educator for Worldstrides, a student educational travel company. We travel to the Florida Everglades and Florida Keys studying biodiversity, coral reef ecology, and seagrass ecology. I am a member of REEF (Reef Environmental Education Foundation), FMSEA (Florida Marine Science Educators Association), hold a current FWC (Florida Wildlife Commission) educator’s marine collection permit, and I am an Eagle Scout. My precious free time is spent scuba diving, geocaching, kayaking, and University of Florida Gator sports.

Mrs. Tomeka Thompson, Forest High School

**Biographical Sketch:** Currently, I teach Biology and AP Environmental Science. I value making and sharing science discoveries with my students who range from 9-12th grade. I enjoy working at Tenoroc High School where my husband is also a biology teacher. Presently, I am pursuing a master’s degree in curriculum & instruction with an emphasis in science from the University of Texas-Arlington. Being both a teacher and a student at the same time can be a challenge but I enjoy both and believe being a student is making me a more gracious teacher. I live in Lakeland, Florida with my husband, Alonzo and we have five children.

Mr. Ted Victor, McArthur High School

**Biographical Sketch:** My name is "Ted Victor", this is the super short version of the longer tongue twister for THIERRY TEO DORO MIGUEL FLORIVAL-VICTOR. I am from the Dominican Republic, of Haitian and Cuban heritage, and was raised in Brooklyn and Brazil. My wife is a registered nurse, and I teach at the local high school. My wife and I have two super awesome children, yet at the toughest ages: toddler and teenager. I am excited to be on board with my fellow teachers this summer! I always tell my wife that only another teacher can really understand the demands of the classroom. I am in desperate need of training programs that will show me how to bring science to life in the classroom. Teaching now is much less about the textbooks, and much more about real life application.
### 2012 School Demographic Information

Florida Department of Education Reported (2009-2010 data) from the No Child Left Behind Data
Student Demographic Category: Economically Disadvantaged

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<th>School</th>
<th>Approx % of economically disadvantaged students</th>
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*Information not available at this time
**UF CPET FACULTY AND STAFF INFORMATION**

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Mary Jo is Director of the University of Florida Center for Precollegiate Education and Training (UF CPET) and a faculty member in the Department of Biochemistry and Molecular Biology in the College of Medicine. She served on the faculties of Bryn Mawr College and Harvard Medical School before coming to UF in 1979. Her research interests and publications are in the area of cell regulation, membrane biochemistry, and science education. From 1989 - 1994, she served as the founding director of the Education and Training Program of the UF Interdisciplinary Center for Biotechnology Research, a laboratory-based workshop program to teach new concepts and techniques of DNA science to scientists and physicians, graduate and medical students, secondary school teachers, and non-science professionals. She continues to teach undergraduate and graduate courses, directs the Biochemistry and Molecular Biology course for medical students, and serves on numerous education committees on campus and throughout Florida. Since 1995, she has led UF CPET in science, math and technology programs that link UF research faculty and graduate students with inservice teachers and their motivated students in grades 6-12. She welcomes new collaborations in basic and applied science outreach with universities and businesses, with UF faculty and students, and with Florida's K-14 educators and students.

**Julie Bokor, MAE**  
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Julie joined CPET in May of 2001. She received her Bachelor's Degrees in Zoology and Microbiology and Cell Science from the University of Florida as well as a Master’s in Science Education. Julie has worked in both industrial and academic molecular biology laboratories. Her responsibilities include the development and implementation of workshops and educational opportunities designed to update high school and middle school science, math, and technology teachers on recent developments in their content area. Julie coordinates all of the CPET programs for teachers including Bench to Bedside, ICORE, Mini Medical School, and the Summer Science Institutes.

**Houda Darwiche, Ph.D.**  
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Houda joined CPET in January of 2011. She has a Ph.D. from UF in Biomedical Sciences that focused on Molecular Cell Biology, and was a double major in Chemistry and Biology at Florida Southern College in Lakeland. Her graduate research involved the study of liver regeneration via stem cells, and the cellular signaling mediating those processes. Houda is responsible for overseeing CPET’s Biomedical Explorations: Bench to Bedside Program, which is a professional development program for science teachers, which focuses on increasing student interest in science and biotechnology careers. Houda also serves as the liaison for B2B teachers during the school year, and assists with implementation of Action Proposals that include equipment loans and classroom support for teachers implementing biotechnology curricula into their day-to-day classes.
Drew Joseph, MST  
Program Coordinator  
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Drew is the program coordinator for ICORE, CPET’s program on Emerging Pathogens. She has a Master of Science in Teaching in Botany from the University of Florida, and received her Bachelor’s degree in Biology and Italian from Mount Holyoke College. Drew has worked in curriculum development in the biological sciences, in addition to her experience as a high school and undergraduate biology instructor. As ICORE Coordinator, Drew oversees the summer teacher institute, and acts as the liaison with teachers during the school year to support the implementation of their Action Research Proposals.

Charles D. Lawrence, MPH, Ph.D.  
UF CPET Educational, Multimedia & Web Designer  
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Chuck Lawrence is a Ph.D. Ecologist (Indiana University) with M.S. degrees in Environmental Health (University of Oklahoma) and Zoology (Indiana University) and a Bachelor’s degree in Environmental Biology (University of Colorado). At CPET, he produces resource books and develops CD and Internet multimedia learning tools and teaching modules for CPET’s teacher outreach programs. He is the author of “The Science Project Encyclopedia”, creator and custodian of the Science Information for Teachers (SIFT) educational service, keeper of The Sifters Guide to Everything (Science) and producer of the Excursions in Science CD-ROM series which can be viewed online.

Angela McCall  
Student Assistant  
UF CPET Teacher Programs  
Angela is a recent graduate of UF, with a B.S. in Biochemistry and Molecular Biology. She will be starting graduate studies at UF in the Interdisciplinary Program in Biosciences this fall, after which she plans to have a career in education. Angela was a participant in CPET’s Science Quest and the Student Science Training Program and has worked with Science Quest for several years.
BENCH TO BEDSIDE PRESENTERS

Henry Baker, Ph.D.
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Dr. Baker’s research focus is in developing gene expression classifiers that can be used to diagnosis illness, predict clinical course and ultimately responsiveness to therapy. Dr. Baker is a participating investigator in Large Scale Collaborative Research Program Inflammation and the Host Response. His laboratory serves as one of three genomic cores for this program. He is a member of the computational analysis and modeling core of the program. The main goals of this project are using microarrays to determine whether patterns of gene expression from whole blood leukocytes can be used to identify trauma and burned patients at risk of developing MODS. The Baker lab is also dedicated to assisting other researchers interested in applying the tools of functional genomics including microarray technology and bioinformatics to medically important problems.

Marianne B. Barnes, Ph.D.
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Dr. Barnes’ research focuses on action research, teacher leadership, and science inquiry teaching and learning. She has led multiple state and campus-wide collaborative ventures. She has served as project evaluator for teacher and student focused STEM projects. Other research involves delving into implicit factors affecting science learning. She teaches graduate courses on action research and secondary science methods.

Lehman W. Barnes, Ph.D.
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Dr. Barnes’ research focuses on action research and reflective practice. He has worked closely with multiple school districts in cross-disciplinary projects and with higher education faculty in STEM disciplines. He provides evaluative and professional development services to community agencies that provide programs and support for underserved youth, including data gathering relative to their success in college venues.

Kassidy Chauncey, B.S.
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Kassidy received her B.S. in Microbiology and Cell Science from the University of Florida and is currently concentrating in Immunology and Microbiology at the University of Florida College of Medicine. In 2009 Kassidy received the UF Medical Guild Research Incentive Award.

Lou Ann Cooper, Ph.D.
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Dr. Cooper is the director of the Office of Program Evaluation at UF’s College of Medicine, the goals of which are to continually and systemically monitor the planning, implementation, and evaluation of the College’s educational programs and to promote educational scholarship.
Teresa d’Angelo, R.N., B.S.N.
General Clinical Research Center
Ms. d’Angelo serves as the Nurse Manager of the General Clinical Research Center at the University of Florida. The GCRC at the University of Florida has been in continuous operation since 1962 and currently occupies over 9,700 sq. ft. on the third floor of Shands Hospital. It is one of over 70 GCRCs in major teaching centers throughout the country, where highly qualified investigators have the opportunity to advance medical knowledge in a clinical setting.

Marian Limacher, M.D., FACC
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Dr. Limacher is the Principal Investigator for the UF Clinical Center for the Women’s Health Initiative. She is co-PI for the clinical trial, “Treatment of Obesity in Underserved Rural Settings”. She directs the Advanced Postgraduate Program in Clinical Investigation (NIH funded K30 program) at the University of Florida, which provides a didactic curriculum and mentoring program in clinical research career development for faculty and senior fellows. She is a past member of the Board of Trustees of the American College of Cardiology and remains active on committees for the ACC, AHA and American Society of Echocardiography. She was awarded the Health Center Faculty Prize for Clinical Science in 2000, and the UFRF Professorship Award in 2005.

Tammy Mandell
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The Center of Excellence in Regenerative Health Biotechnology (CERHB) facilitates translational research by providing expertise and infrastructure to investigators at the University of Florida, local start-up companies, and other universities, research institutions, and companies in the Southeast. CERHB plays an integral role in developing the biotechnology cluster in Florida by fostering new company formation, existing company expansion, and attracting outside companies to the region. CERHB’s mission is to stimulate promising research and facilitate commercialization of technologies that will provide treatments and cures for human disease, as well as create new companies and high wage jobs for Florida.

Ray Moseley, Ph.D.
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Dr. Moseley is the founder and was the first President of the Florida Bioethics Network (FBN), and has played a key role in the development of the FBN as a significant statewide resource and as a model for other bioethics networks around the country. His research includes publications on 'Withdrawal of Life-Sustaining Medical Treatment,' 'Advance Medical Directives,' 'Genetic Testing,' 'New Medical Technologies,' and 'Prenatal Testing.'

Bryon Petersen, Ph.D.
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Dr. Petersen’s research lab focuses on liver growth, development and regeneration under normal and carcinogenic conditions. We are currently studying the molecular signal involvdl in the regenerative process, focusing on oval (stem) cells and their involvement in the hepatic architecture as it pertains to the regenerative process. We are also exploring the use of a pure population of oval cells to ascertain their potential for use in gene/cell therapy techniques. The lab has several other projects as well, including investigating the pathways involved in the recruitment of bone marrow derived stem cells to the liver, as well as the regulatory mechanisms and gene therapy for type-1 diabetes.
Troy Sadler, Ph.D.
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Dr. Sadler’s research agenda relates to understanding how people learn science and what approaches to teaching facilitate learning. He has an ongoing project related to student discourse and argumentation in classrooms. Dr. Sadler is investigating how students learn about science and technology through the social negotiation of experiments and their findings. He teaches courses related to science education and teacher preparation and conducts research in the areas of socioscientific issues, scientific argumentation, and situativity theory.

Greg Shultz, Ph.D.
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Dr. Shultz’s research focuses on the role of growth factors, cytokines and proteases in regulating normal wound healing in the eye and skin, and how alterations in these key molecular regulators leads to impaired healing (chronic wounds) or excessive healing (fibrosis). Dr. Shultz’s lab is developing rapid, point-of-care indicators for assessing levels of proteases, nitric oxide (NOx) and biofilms in wound assessment and is involved in clinical trials testing new drugs that reduce inflammation, inhibit proteases, and promote healing of chronic wounds.

Richard Snyder, Ph.D.
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Dr. Snyder’s research involves adeno-associated viruses. The first goal of the lab is to find out how the nucleic acid is inserted into the capsid of the virus. The second goal is to understand adeno-associated virion assembly and specific capsid subunit interactions using computer modeling techniques. Dr. Snyder currently serves both as the director of the Center of Excellence of Regenerative Health Biotechnology (CERHB) and the director of Human Applications within the Powell Gene Therapy Center.

Peggy Wallace, Ph.D.
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The major focus of Dr. Wallace’s research lab continues to be NF1, as it is a very complex condition clinically and at the molecular/cell biology level. Her lab is trying to determine the pathways involved in NF1 tumor formation (such as neurofibromas, malignant peripheral nerve sheath tumors, and myeloid leukemia), to help develop targeted therapies. This has involved numerous strategies including use of genetically engineered mouse models, cultured tumor cells, protein analysis, and analysis of the NF1 and modifier genes for constitutional and somatic mutations. In addition, her lab is applying molecular genetics and cell biology approaches to study other conditions with a genetic basis, both of Mendelian and multifactorial inheritance. She collaborates with many investigators at the University of Florida and elsewhere.

David Weinstein, M.D., M.M.Sc.
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While patients with glycogen storage disease are now surviving into adulthood, long-term complications remain common, and Dr.
Weinstein's team has focused on elucidating the cause of these complications. Previous studies have revealed the pathophysiology for anemia and renal complications in GSD, and Dr. Weinstein's lab continues to investigate complications in GSD I including hepatocellular carcinoma, hepatic adenomas, and atherosclerosis. Curing the glycogen storage diseases remains the ultimate goal. Dr. Weinstein's laboratory is working on ways to cure the disease through gene therapy or replacement of glucose-6-phosphatase activity. Stem cell therapy is presently being attempted in the mice with GSD type Ia, and gene therapy is being performed in the naturally occurring canine model of this disease.