

Fall 2013

FLORIDA STATE UNIVERSITY COLLEGE OF MEDICINE

FSU MED

Your birth year is
important – and so is
your temperament



**AGING, PERSONALITY,
HAPPINESS AND HEALTH**

PLUS:

BUILDING A BETTER RESEARCH NETWORK
PRAIRIE VOLES TEACH US ABOUT LOVE

The circle of life continues at the College of Medicine. The Class of 2017 completed its first summer semester and celebrated at the white coat ceremony in August, the second-year class returned to the main campus in mid-August, third-year students are busy with clinical rotations at their campuses and fourth-year students are embarking on interview season. Our original regional campuses (Tallahassee, Orlando and Pensacola) are each celebrating their 10th anniversary, and interview season for the Class of 2018 is already underway.

While this cycle has repeated itself now since the first class in 2001, the College of Medicine has also experienced a quiet expansion of our faculty and research activities. In our cover story about aging and happiness, we highlight two of our newest faculty. In their first year, Angelina Sutin (medical humanities) and Antonio Terracciano (geriatrics) have produced a half-dozen published articles with noteworthy findings about the role personality traits play in our mental and physical health. Their findings are significant, not just because they have received worldwide attention through articles appearing everywhere from *USA Today* to *The Times of India*, but because they point the way to interventions that are especially relevant in the context of our mission. Their work dovetails with our focus on aging and recently provided something to feel good about in that regard: a decade-long study of more than 9,000 individuals showing that people tend to become happier as they get older.

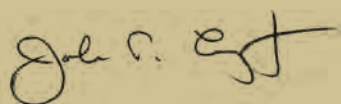
Now that we have a fully mature and successful education program at our regional campuses, we are working hard to establish a Clinical Research Network that will engage our more than 2,000 clinical faculty and their patients. A feature story about this effort reveals the enthusiasm these clinical faculty members have for the opportunity to contribute to discovery that will lead the way to best practices in patient care.

Meanwhile, multiple recruitment efforts in our Biomedical Sciences Department in the past four years are paying dividends in our rapidly growing reputation for outstanding research. New faculty member Jose Pinto was recently named the "Stop Heart Disease Researcher of the Year," and new faculty member David Meckes, though only 32 years old, was published in *Proceedings of the National Academy of Sciences*. Meckes also was asked to present his work in the main assembly hall at a prestigious national scientific meeting where, ironically, his audience was made up of many of the scientists he had looked up to as an aspiring student.

The good news in our research efforts also is obvious in other accomplishments:

- Eric Laywell's NIH grant aimed at the end goal of helping physicians provide better quality of life for patients suffering from terminal brain tumors.
- Daniel Kaplan's efforts to help middle and high school science teachers become more effective in the way they teach science. He recently received a \$750,000 NIH grant to study DNA replication, but takes the time outside of his research to help local teachers better engage students.
- James Olcese's patent for his novel approach to a common problem involving preterm labor.

I think you will agree that the College of Medicine has matured in many ways and is achieving excellence in each of the areas of teaching, research and service. Enjoy the stories of our wonderful faculty and students.



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12

FEATURES

Personality matters*By Doug Carlson*

A husband-wife research team at the College of Medicine is making news worldwide with discoveries about the way personalities can shape mental and physical health. They've also made fascinating discoveries about what happens to us as we age.

18

Physicians as researchers*By Ron Hartung*

Long known for its community-based medical education program, the College of Medicine is developing a statewide research network using a similar blueprint. The network will enable physicians to drive research that leads to better patient care.

22

Love molecules, revealed*By Julie Jordan*

Everything feels different when you fall in love. Now a College of Medicine researcher has found an actual genetic change in prairie voles that could explain what's really going on when humans go head over heels.



18

**on the cover**

We get happier as we get older, though there is a stronger correlation between birth year and overall well-being than previously thought. It's one of the many interesting things we've learned from College of Medicine researchers Angelina Sutin and Antonio Terracciano.

(Cover art by Jodi Slade, medical illustrator in the College of Medicine's Office of Medical Education. See Page 6 for more about her work.)



22

headlines**2**

Science, People and Places

rounds**24**

Checking up on our alumni

second opinion**32**

Physicians can't turn their back on the issue of gun ownership

A NOVEL IDEA, ADOPTED

James Olcese is a step closer in his quest to find a better way for treating common and serious health issues related to pregnancy. The associate professor of biomedical sciences recently received an important endorsement from the U.S. Patent Office.

U.S. Patent No. 8,445,436, issued to Olcese in late May, supports his theory that the naturally produced hormone melatonin may help

produce a better alternative for women in preterm labor, or in need of induced labor.

His invention proposes a pharmaceutical composition containing oxytocin, the hormone currently used to induce birth, and melatonin as a safer and more effective alternative. His research shows such a composition would be therapeutically effective without the degree of side effects found with the use



James Olcese

of oxytocin alone.

Conversely, he proposes blocking oxytocin and melatonin receptors as “a powerful new strategy” to control preterm labor.

Supported by a grant from the William F. Milton Fund at Harvard University, Olcese is extending a pilot study in which his team examined the impact of blocking melatonin synthesis on uterine contractions in late-term pregnant volunteers. The hypothesis was that by reducing the melatonin signal to the uterus, the contraction frequencies would drop significantly.

“This is exactly what we found in the modest number of women that we studied,” Olcese said. “By enlarging this study to more than 50 subjects we hope to confirm in an independent laboratory at Brigham and Women’s Hospital in Boston the validity of our hypothesis that melatonin plays a key role in the timing of human labor.

“Together with our newly awarded patent this should accelerate interest in this novel approach to managing obstetrical challenges, such as delayed or premature labor.”



REWARDING HEART RESEARCH

More than 50,000 people die from heart disease each year in Florida, and statewide hospitalization costs related to the disease add up to about \$19 billion annually.

No wonder novel approaches to treating the problem are needed.

Jose Pinto, assistant professor of biomedical sciences, has built a career developing an understanding of the molecular basis of muscle function. While the bulk of the hospitalization costs are related to taking action after the illness has inflicted damage, Pinto is quickly becoming a leader in explaining the underlying mechanism of heart disease.



Jose Pinto

In August he was named the Stop Heart Disease Researcher of the Year by the Florida Heart

Research Institute (FHRI). The award is given to a Florida researcher judged to be having the broadest impact in advancing knowledge about the diagnosis and/or treatment of cardiovascular disease.

“Dr. Pinto is paving the way to novel approaches to our understanding and treatment of heart muscle dysfunction – a major component of congestive heart failure,” said Paul Kurlansky, M.D., director of research at the FHRI.

Pinto and his team attempt to understand how inherited mutations in the proteins responsible for regulating contraction of the heart lead to aberrant disease phenotypes.

“We are interested in understanding the consequences of certain cardiac ‘poison peptides’ on skeletal muscle physiology and function,” he said. “Our ultimate goal is to develop a more effective, targeted therapeutic strategy which can be used to counter heart disease.”

The award includes a \$25,000 stipend to be applied toward future cardiac research projects in Florida.



MANAGING BRAIN TUMORS MIGHT BE BEST

Eric Laywell

One day you wake up and notice a change in your vision. You visit the optometrist seeking a solution, but she refers you to a neurosurgeon.

The neurosurgeon informs you of a mass in your brain putting pressure on the area controlling your vision. He schedules a biopsy.

Later, your doctor breaks the news: You have a glioblastoma multiforme (GBM) brain tumor, the most common and lethal form of brain cancer. He has already “de-bulked,” or trimmed, it as much as possible, and wants to discuss treatment options. Vision is suddenly your last concern.

This cancer spreads rapidly; the prognosis is usually one to two years. Treatment is complicated. Chemotherapy, radiation and surgery are options, but these treatments are just as taxing as the tumor itself. The tumor may also impair functioning of the affected area, such as vision. Areas controlling personality and mood may also be affected, further diminishing quality of life and straining relationships.

What else can be done? A College of Medicine researcher wants to explore a different approach.

Eric Laywell, associate professor in the Department of Biomedical Sciences, received a \$430,000 grant from the National Institutes of Health to study a new therapeutic agent and treatment method focused on the GBM brain tumor.

“Now we’re just looking at animals that have tumors and seeing if we can reduce their drug burden, increase their life span, and keep them healthier while they’re being treated,” said Laywell. “But ultimately, using this on humans is the goal.”

The new therapeutic agent Laywell is exploring is EdU (pronounced E-D-U). It is most commonly used to track and label cells that divide, but his lab observed that over a longer period of time, it slows the growth of dividing cells, killing some in the process.

“When we realized that was happening, we thought, ‘That sounds like a great thing to try on cancer cells,’ and it worked on every kind of cancer cell,” said Laywell. “It also crossed the blood-brain barrier, which is sometimes a limitation for drugs.”

EdU was chosen as the therapeutic agent, but Laywell also wanted to try a new method of treatment.

“Adaptive therapy is actually based on the way environmentalists approach eradicating pest species,” said Laywell. “They don’t try to kill all of them at once. They try to manage the population, so there is never that emergence of resistance.”

Likewise, if Laywell and his lab see the population of cancerous cells growing, they administer more EdU. If tumor growth slows, they decrease the dosage, always leaving room for treatable cells.

“The idea is to manage it, and treat it as a chronic disease,” said Laywell. “There will still be cancer there, but it won’t escape into this untreatable tumor that is no longer affected by drugs.”

Despite the current eradication mentality, he believes brain tumor management will be well received among clinicians and patients in the future.

“When I bring this idea up with people who treat cancer patients, they get it,” Laywell said. “If the patient can get past the idea that they have a tumor that’s never going away, but it is being managed, they’ll essentially be healthier, and probably happier, too.”

IN OTHER NEWS

For the fourth time since 2007, *Hispanic Business* magazine has listed Florida State among the Top Ten U.S. medical schools for Hispanics. “Our students value the FSU College of Medicine environment,” said Ricardo Gonzalez-Rothi, chair of the college’s Department of Clinical Sciences, “because they feel engaged and because we value and respect the cultural nuances of the patients we serve.”

THE FUTURE OF CANCER RESEARCH

An audience of distinguished scientists gathered in the main assembly hall at the recent 38th Annual International Herpesvirus Workshop in Grand Rapids, Mich. They came to hear a speaker selected based on his compelling abstract, unaware he was celebrating his 32nd birthday.

Such relative youth is not often featured in the arena of high-stakes research, whether at large conferences or in prestigious academic journals. David Meckes, Ph.D., is an exception.

The new assistant professor of biomedical sciences at the College of Medicine is breaking ground in virus research, where the goal is to better understand viral-associated cancers. *Proceedings of the National Academy of Sciences (PNAS)* published the study Meckes discussed in Grand Rapids, and also selected it for a special commentary.

So much of what is transpiring could easily have been difficult to fathom for Meckes, who only recently completed his postdoctoral studies. Scientists you've looked up to for many years listening attentively as you explain your work, an older and more professionally advanced colleague making favorable comments in *PNAS* about a study you've done, setting up the first laboratory that you can call your very own ...

"Good timing helps, being in a new and exciting, growing field," Meckes said. "It was nice having scientists whose work I have admired come up to me after my talk and tell me I did a great job. That's a good feeling to be recognized by the people you have been looking up to."

Meckes told them of his discovery about the impact two viruses – Epstein-Barr and Kaposi sarcoma – have on the cargo of tiny vesicles (called exosomes) that are released from infected cancer cells.

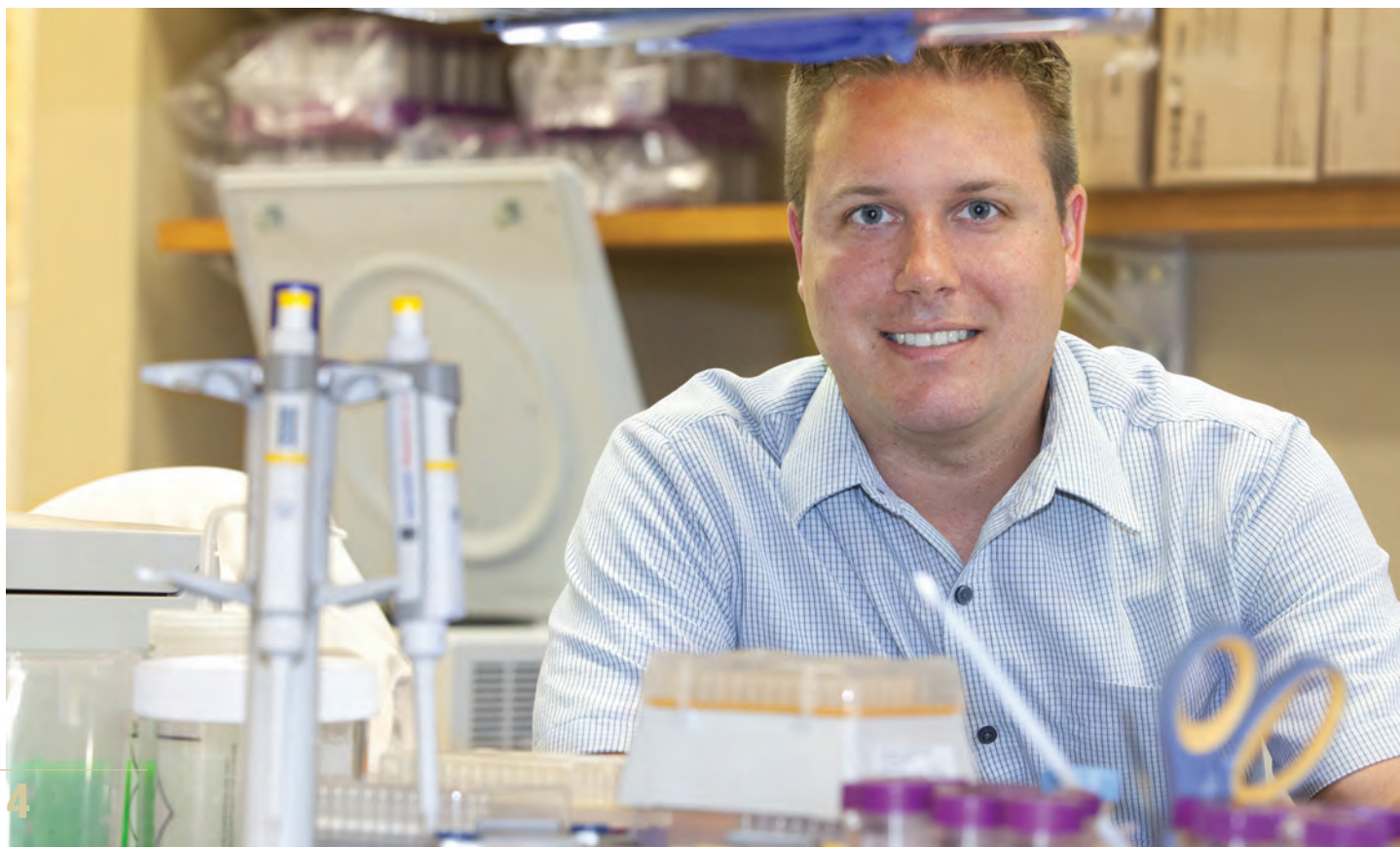
"It's really the first time anyone has looked at how viruses, particularly cancer viruses, alter the components of exosomes," he said. "Lately there's been a lot of interest in exosomes because of their potential functions in many biological processes, but even more so in cancer, where alterations in the components of these vesicles could contribute to cancer pathogenesis."

His research demonstrated, for the first time, how the viruses dramatically alter the components of the cellular vesicles. It suggests a new way that the viruses, and possibly other viruses, could promote the growth and spread of cancer in the body. And that could point the way to more effective methods of treatment.

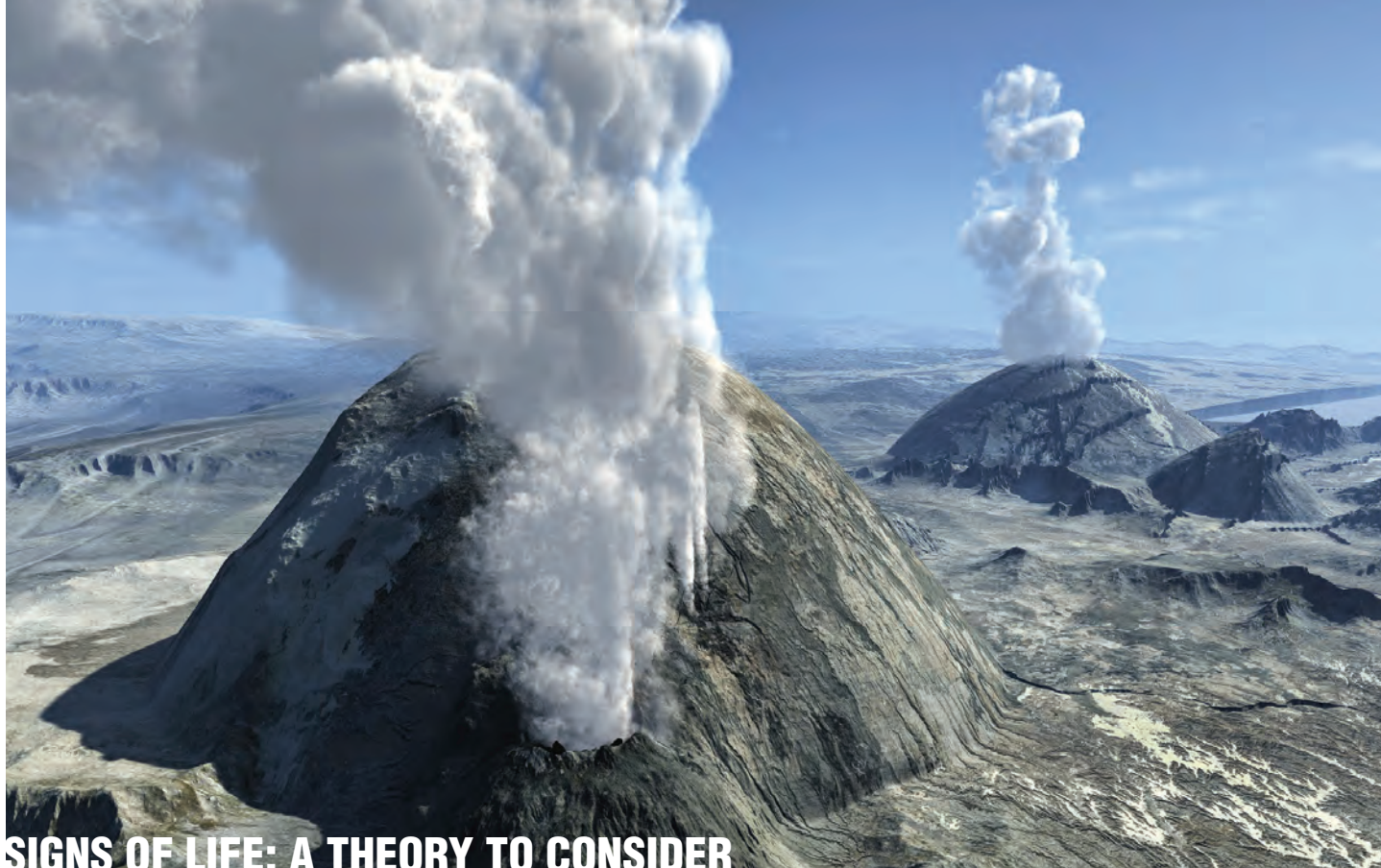
With so much interest in his work, Meckes had various career options when he was finishing his postdoctoral studies at the University of North Carolina.

"The state-of-the-art research facilities and the diversity of great science being done here was important for me," he said, explaining what brought him to Florida State. "The new translational science core lab was very attractive, providing the capabilities to continue some of these studies. But also being at a major research university with the opportunity to collaborate with lots of other researchers on campus, since this is a new and rapidly expanding area that will be driven by interdisciplinary work."

David Meckes



BILL LAX/FSU Photo Lab



SIGNS OF LIFE: A THEORY TO CONSIDER

Comets, meteor showers, volcanoes the size of Texas and an atmosphere of carbon dioxide and nitrogen. This isn't a description of the age of the dinosaur; it's what Earth was like billions of years before dinosaurs arrived.

It's also the environment in which life first emerged on the planet between 3.5 and 3.9 billion years ago.

Based on a three-year study built around investigative techniques that took more than 17 years to develop, Michael Blaber, a structural biologist at the College of Medicine, recently proposed a theory about when and where the first living organisms evolved. His findings were significant enough to be accepted for publication in *Proceedings of the National Academy of Sciences*.

"The current paradigm on the emergence of life is that RNA came

first and in a high-temperature environment," Blaber said. "The data we are generating are much more in favor of a protein-first view in a halophile environment."

For the uninitiated, that's a salt-rich locale where, according to Blaber's research, life began as a microscopic, cell-like organization capable of replicating and adapting to environmental conditions.

Blaber's work doesn't explain how life began, but it points strongly in the direction where he believes scientists should be looking.

"Rather than a curious niche that life evolved into, the halophile environment now may take center stage as the likely location for key aspects of biogenesis," Blaber said.

To read more about his study visit med.fsu.edu and search "researcher offers clues."

IN OTHER NEWS

Mohamed Kabbaj, professor of biomedical sciences, received a \$1.8 million grant from the National Institute of Mental Health to support his research on the general anesthetic drug ketamine – which also works as an antidepressant. In fact, it works at a lower dosage for women than for men, and he and fellow researchers are trying to find out why. Read more about other compelling research in Kabbaj's lab on Page 22.



PORTRAIT OF THE MED SCHOOL ARTIST

Jodi Slade disagrees with those who think artists and scientists inhabit separate universes. She should know, because she graduated from Florida State University in 2008 with a science degree and an art degree – and uses both in her role as medical illustrator for the College of Medicine.



Jodi Slade

“People think the ability to draw is the biggest hump when it comes to being a scientific illustrator,” Slade said. “It’s actually being able to SEE something and then interpret that information, or make the analogy that everybody can understand. Many doctors and scientists have that ability already.”

Her master’s program at Johns Hopkins Medical School seamlessly blended art and science for would-be medical illustrators.

“We took anatomy with the med students. We got graded as they did. We did the practicums as they did. We dissected as they did,” Slade said. “We were indistinguishable from med students for about three months.”

In 2011, with her master’s in hand, she returned to Tallahassee. Now she works with the faculty to create drawings and videos that make complex biological processes easier to understand.

“I wanted to be able to support the faculty in developing learning materials in various formats,” said Instructional Designer Shenifa

Taite, Ed.D., Slade’s supervisor. “We had in place instructional design, video, audio, web and graphic design, but were missing a critical component. Jodi’s training from Johns Hopkins complemented our team with not only medical illustration but also animation, graphic design and some related programming.”

Each project pays dividends in a variety of ways.

“The learning materials and other illustrations have reduced the need to replicate a concept from year to year in a given course,” Taite said. “The students benefit by being able to review the materials on demand as a reinforcement of the concept or supplement to instruction. Some have directly benefited by using custom animations or illustrations for presentations and publications.”

Last year, Slade created a custom animation of “The Pleural Space” for lung specialist Ricardo Gonzalez-Rothi, M.D., chair of the Department of Clinical Sciences. He wrote down his ideas and gave them to Slade. “I was incredibly impressed that she came up with some very innovative ideas. She actually did a motion picture with her computer! I saw her as a colleague, as opposed to somebody who was providing a service.”

They passed it back and forth, tweaking and fine-tuning. “I was always incredibly impressed with how she was able to take a concept and apply it in a visually appealing manner.”

As of early October, that four-part pleural video had been viewed more than 35,000 times, not just at the medical school’s six regional campuses but in India, Australia and elsewhere.

Although she has gotten rave reviews from those who’ve worked with her, Slade remains something of a secret among the faculty.

“We are preparing a digital gallery of work,” Taite said, “for faculty to view and get ideas of what we can offer.”

(Link to Slade’s work: youtube.com/user/FSUMedMedia)

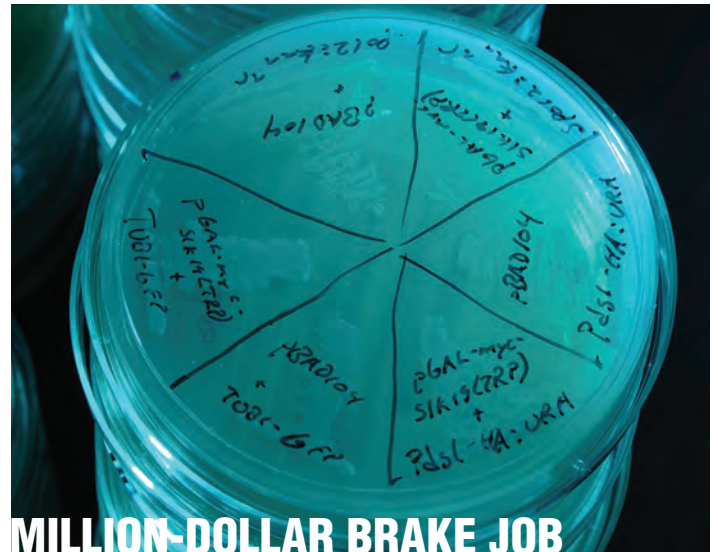
In this still from one of her animations, Slade shows how a tumor in the lung or chest wall can cause fluid to build in the lungs (pleural effusion).

GLUE VIEW

The illustration below by Jodi Slade helped land Yanchang Wang's research on the March 1 cover of *Molecular Biology of the Cell*. The paper, written by Daniel Richmond, Raed Rizkallah, Fengshan Liang, Myra Hurt and Wang, explored the role that a particular protein plays in yeast cells during cell division. "The kinetochore is the protein structure on chromosomes where the spindle fibers attach during cell division," said Wang, an associate professor. "The most important thing we learned in the paper is that the kinetochores from different chromosomes group together, and that Slk19 protein not only acts as glue to cluster them but also facilitates accurate chromosome segregation."



Slade created this glue image to illustrate Associate Professor Yanchang Wang's research on the cover of *Molecular Biology of the Cell*.



MILLION-DOLLAR BRAKE JOB

Picture Department of Biomedical Sciences researcher Yanchang Wang as a car mechanic about to perform a brake job. In this case, the brakes are not in your 2006 Jetta; they're inside your cells, occasionally slowing down cell division to make sure every chromosome is where it ought to be.

And the problem is not that the brakes don't work; the problem is a shortage of information about how the brakes know when to disengage and let the process of cell division start again.

The mystery behind this "brake job" is considered so important that the National Institutes of Health has awarded Wang a four-year, \$1 million grant to get to the bottom of it.

Fact is, bad things happen when cells don't divide the way they should. Let Senior Associate Dean for Research and Graduate Programs Myra Hurt put it in perspective: "The most important thing that happens in terms of life on this planet is the 100-percent accurate duplication of the genome and the absolutely perfect segregation of those copies into two cells. The cell has lots of machinery to make sure that happens correctly."

Researchers already know that the segregation of duplicated DNA into daughter cells during cell division requires that chromosomes be attached in exactly the right way. They also know that a "checkpoint" mechanism monitors any mistakes in that attachment process – and stops everything until any mistakes are corrected.

The specific question Wang is asking in this project is: After the mistakes in the attachment process have been corrected, exactly how is the brake released, thereby allowing cell division to continue? Timing is everything, since a premature "brake release" also results in what's known as chromosome missegregation. And that can lead to such outcomes as birth defects and cancer.

"This research," Wang said, "will potentially uncover new targets for cancer diagnosis and treatment."



Daniel Kaplan

TEACHING THE TEACHERS

As part of a National Science Foundation grant, Associate Professor Daniel Kaplan has developed a program for training the trainers. In May, he taught middle and high school teachers how to teach complex molecular biology in simple ways – and he'll do so again in the next two school years.

His class consisted of Leon County teachers from Godby High, Lincoln High, Fairview Middle and Raab Middle. Next time, he and student-outreach specialists Thesla Berne-Anderson and Roosevelt Rogers hope to engage teachers from nearby counties as well.

"The teachers can go back to their public schools and teach their students about the latest research in DNA replication," Kaplan said. "And they'll have hands-on laboratory experience actually testing a hypothesis that has never been published or even attempted."

Kaplan, whose research focuses on DNA replication and genome maintenance, came to Florida State in 2012 from Vanderbilt University. Earlier he attended Yale University Medical School for two and a half years – until he fell in love with research, got his Ph.D., pursued advanced research training and never looked back. He loves to teach and was delighted with his latest class of teachers.

"I cannot possibly tell you how fantastic it was," he said. "The teachers asked a lot of very interesting questions. We covered so many topics that were not on the syllabus – because the teachers, of course, teach so many different topics to their students. For example, why is it bad to use so much antibacterial hand soap? It's very important for the teachers to actually relate issues of DNA to the students' daily lives."

For Godby science teacher Karin Johnson, learning from Kaplan was an invigorating opportunity. "This experience has rekindled and reconnected my passion for science and education," she said. "I am excited to share this knowledge and experience with my students and hope that someday they could meet Dr. Kaplan, tour or maybe work as a junior researcher in his laboratory."

Kaplan is ready for the teaching-the-teachers classes to resume. "We'll be able now to have Tallahassee at the forefront of being able to understand DNA replication," he said. "Hopefully it will inspire new young scientists from the Tallahassee area to go on to careers in cancer, antimicrobial and DNA research."

Kaplan recently published a manuscript in the *Journal of Biological Chemistry* related to his \$775,000 NSF grant. He discovered ways that replication proteins, responsible for copying DNA when cells divide, communicate with each other.

"They communicate to halt DNA replication when the replication proteins encounter a region of DNA damage," he said. "The mechanism that we discovered may be important to preserve DNA integrity and prevent cancer."

BILL LAX/FSU Photo Lab

THE ALL-AMERICAN SCHOLAR WITH HIS OWN STAMP

Our Class of 2017 has 66 women, 54 men, 10 students from rural counties, one student who was an NFL draft pick, one who earned his graduate degree at Oxford University, one who's pictured on a postage stamp and one who created a foundation to benefit the underserved around the world.

Actually, those last four claims to fame all belong to Myron Rolle.

If you followed FSU football in the past decade, you know Rolle's name. He started at safety for three years with the Seminoles. In 2008 the Associated Press named him an All-American. Then he postponed an NFL career to earn a master's degree at Oxford as a Rhodes Scholar.

He eventually spent three years pursuing an NFL career, but he has always had bigger dreams. Among them is setting up a free health clinic in the Bahamian island where his family comes from. In fact, he was there this summer – for the unveiling of a national stamp featuring him and two other Bahamian Rhodes Scholars.

Rolle has had a fascinating journey to the College of Medicine. Then again, so have his 119 classmates. So we'll turn off the media spotlight now and let them get back to work.



HELP WANTED: RECRUITING TIME IN FORT MYERS

This fall will be a busy season for Gary Goforth, director of the College of Medicine's new family medicine residency program at Lee Memorial Hospital in Fort Myers. The program achieved full accreditation status during a May meeting of the Accreditation Council for Graduate Medical Education.

Goforth's attention now turns from building a patient base and consulting on the construction of new clinical facilities to the part he has been anticipating: recruiting the first class of residents.

The residency program will be conducting its first interviews toward bringing in a class of six interns, to be announced on Match Day in March.

The program will be the first approved by the ACGME in Southwest Florida, among the fastest-growing regions of the state. The population in Lee County grew by 40 percent from 2000 to 2010.



Gary Goforth with a patient at the Family Medicine Clinic at Lee Memorial Hospital in Fort Myers.



Photo of Bahamian stamp (Martin Young)

Rolle is pictured (far right) on this official Bahamian stamp.

'IF SHE CAN DO IT, SO CAN I'

Some young people can't wait to get out of the town where they grew up. This past summer, Kristen Dimas couldn't wait to get back.

Not everyone understands, because this medical student's hometown is not a prime tourist destination. But as the College of Medicine has learned, Immokalee has abundant charms. It wasn't until Dimas – whose grandparents were migrant farmworkers – traveled north to Tallahassee for her freshman year at Florida State that she fully appreciated the town she'd left behind.

"You hardly ever find places like this, where you've got so many people from different backgrounds and cultures in one area," she said, "and I got to grow up here. That was wonderful."

So the summer after freshman year, she came back and started to tutor younger students. She loved it. In fact, life in Immokalee is among the many career options she wants to explore.

"It started to cross my mind: 'I could become a physician and come back to this area, specifically in pediatrics,'" she said. "Kids here don't exactly have a role model. My younger cousins, my brothers, my sister, I would want to be that person – for them to say, 'If she can do it, so can I.'"

During the summer, she got to be that role model. Every summer, high-schoolers considering careers in health care get a peek into the future through the College of Medicine's Summer Institute. Usually they come to the main campus in Tallahassee, but this year, for the first time, a similar experience was offered in Immokalee – to students from there and small towns nearby.

For two sessions of two weeks apiece, second-year students Joah Aliancy and Dimas patiently led a total of 18 girls through a hands-on introduction to health-care basics – such as how to take someone's blood pressure, how heart valves work and why athletes have a lower pulse.

"Our goal for the Summer Institute is to expose students who may be interested in the health-care field to the variety of professions that make up that field," said Elena Reyes, the medical school's Southwest Florida regional director. "Additionally, we expose them to the health issues in the state's underserved communities. The message is that they can become part of the solution and that the FSU College of Medicine will be there with them along the way."

For Dimas, being one of their teachers was "amazing."

"It's nice to see how eager they are to learn," she said. "They want more for themselves. They have my phone number and my email address. I've told all of them, 'I'll be there, no matter what.'"



Kristen Dimas, center, who grew up in Immokalee, returned at the end of her first year of medical school to give Immokalee girls a glimpse of the health careers that could await them.



COLIN HACKLEY

CHASING OBESITY OUT OF IMMOKALEE

No sooner had the ink dried on Javier Rosado's study of obesity in Immokalee than he transformed from academic observer into anti-obesity coach.

In his paper last March in the *American Journal of Preventive Medicine*, he concluded: "Interventions are needed that address both childhood obesity and parent weight status among Latino migrant farmworkers." He didn't wait for someone else to provide those interventions. For Rosado, clinical training director for psychology at the College of Medicine's Health Education Site in Immokalee, the people of this migrant-rich community are not just research subjects. They're his neighbors.

To help them beat the obesity odds, Rosado – with the support of the University of Florida Family Nutrition Program – assembled a team that includes a physician, nurses, a registered dietitian, a Zumba instructor and a soccer coach to create Salud Immokalee, a 12-month obesity intervention program. Research among migrant farmworkers is rare, and Rosado is thrilled by this opportunity.

"That is why community-based research is so powerful," he said. "You don't have to wait years to put findings into action."

Fast-forward to the end of July. It's the last night of the most intensive phase of Salud Immokalee. While parents get reminders about diet and exercise,

16 kids review the food groups and yell out examples of foods labeled Go ("Carrots!"), Slow ("Pancakes!") and Whoa ("Fatty, salty chips!").

Soon half of them are out back chasing soccer balls, and half are in a heart-pounding Zumba exercise class, where the energy level is all Go and no Whoa.

At evening's end, each child has received a certificate, pretzels, fruit and a jump rope. Each parent has received a promise that Rosado and his team will keep tabs on them and their kids through next spring, taking vital signs and inquiring about successes and challenges.

"One of our biggest challenges is transportation," Rosado said. "Immokalee isn't that big, but our farmworkers' village is maybe three miles from the farmers market. That's a problem if you're trying to do grocery-shopping without a car, there's one bus for the entire town, and you worked a long day."

What pleased Rosado the most, perhaps, was that during this program the parents discovered each other.

"It's an immigrant community," he said. "A lot of people come on their own. They don't have family members. They don't know many people. They end up isolated in their homes."

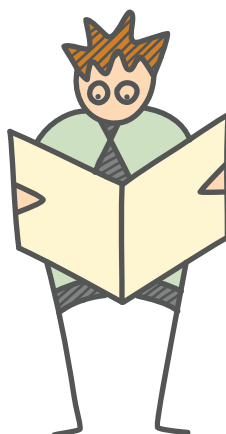
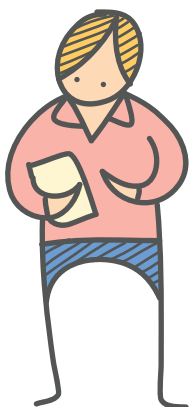
Now they have a support group. And hope.

▲ These 16 kids all received certificates congratulating them for completing the first phase of the Salud Immokalee Program.

PERSONALITY MATTERS

YOUR HEALTH GETS PERSONAL, BUT YOU DON'T HAVE TO JUST SIT THERE

BY DOUG CARLSON



W

Whether you know it or not, you might be less likely to take your medicine or to follow a doctor's orders because of a pre-existing condition. Specifically, that personality of yours. Leading you to balk at what the doctor tells you isn't the only way your personality could be impacting your health. Most people already know Type A personalities are ripe for high blood pressure and heart problems if they don't learn to lighten up a little. But a couple of College of Medicine researchers have been digging deeper into the connections between personality traits and mental and physical health outcomes.

What they've found is enough to make you put down your coffee.

Angelina Sutin, assistant professor of medical humanities, and Antonio Terracciano, associate professor of geriatrics, look at biomarkers of health and make comparisons to expressions of personality traits as defined in the Five Factor Model (see Page 15 – "Where do you fit in?"). In a series of recent and separate publications appearing in peer-reviewed journals, they've revealed more than a few surprises.

For example, they published research showing that people with a resilient personality – handle tough situations well and bounce back after letdowns – have greater aerobic capacity. Translation: They're probably going to live longer and have more energy while doing so.

In another study, they found that people with more impulsiveness or excitement-seeking in their personality have higher white blood cell counts, a risk factor for morbidity and mortality.

Those aren't the only notable findings Sutin and Terracciano have published.

A sampling of their other recent discoveries:

- Individuals scoring high on neuroticism and low on conscientiousness are more likely to develop Alzheimer's disease.
- People tend to enjoy an overall greater level of happiness and satisfaction with life as they age (feature story, Page 16).

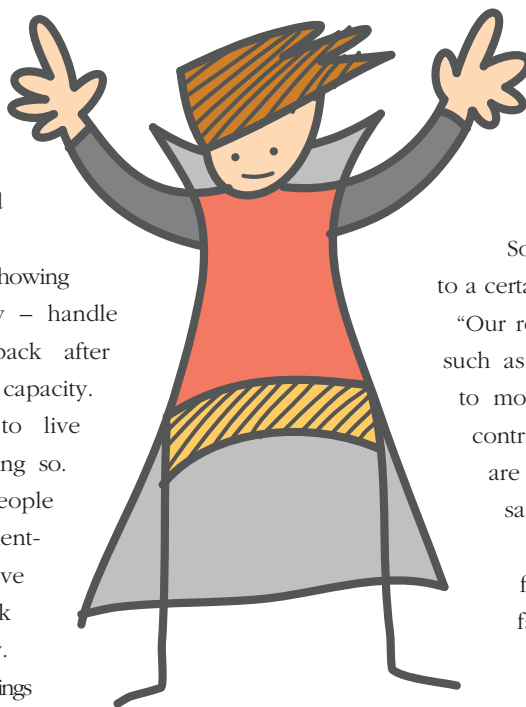


Angelina Sutin



Antonio Terracciano

- Impulsivity contributes to weight gain, which in turn weakens the ability to resist cravings. At the same time, those who gain weight become more concerned about their behavior.
- Individuals who are impulsive and lack discipline (low conscientiousness) have higher levels of leptin (a hormone that tells the brain to stop eating), which suggests one potential physiological pathway between personality and obesity.
- People subjected to weight discrimination are 2.5 times more likely than others to *gain* additional weight over time.



So what does all this mean? That you're doomed to a certain fate based on your personality type?

"Our research suggests that certain personality traits such as neuroticism or conscientiousness contribute to morbidity and mortality, but the diseases they contribute to, such as obesity or Alzheimer's disease, are complex and have complex etiologies," Sutin said.

"From this perspective, personality is one risk factor that contributes to disease, and a risk factor is not the same thing as fate."

Whew.

Still, the question lingers. What can we make of these revelations about personalities and health? More to the point, is there anything we can do about it?

"For one thing, an effort can be made to change behaviors that are conducive to poor health," Terracciano said. "People do make changes such as stopping smoking and exercising more."

They caution that personality traits are only one part of the complicated equation that is your health, citing the Alzheimer's disease study as an example.

“Studies are consistent in suggesting that personality is one contributing factor to dementia,” Terracciano said. “Our hypothesis is that this association is in part explained by health-related behaviors. For example, conscientiousness may influence the level of physical activity, and higher physical activity is protective against dementia.”

The discoveries speak to the College of Medicine’s mission and focus on primary care. Guiding people toward healthier choices is more effective from a broad health-care standpoint than, say, increasing access to medical specialists who would try to fix the damage after it’s done.

That’s especially true when there’s such a wide disparity in access to care. Obesity is one example. It disproportionately affects the poor, who are less likely to eat a healthy diet. Research that provides greater understanding of how personality traits play into the equation opens up new avenues for intervention.

“The question then becomes what can we do as health professionals to reinforce mechanisms so that healthy eating becomes the default societal response – lettuce and carrots instead of chocolate cupcakes,” said Les Beitsch, M.D., chair of the college’s Department of Medical Humanities and Social Sciences.

“We likely need a multifaceted approach so that individuals with less impulse control are not constantly inundated with the opportunity for poor health outcomes related to excessive weight gain.”

Sutin and Terracciano, both with behavioral psychology backgrounds, are motivated by scientific curiosity and by the reality that nearly half of all deaths in the United States are linked to behaviors or other risk factors that are mostly preventable.

“When you understand how personality traits are linked to health outcomes, you get a better sense of why people do some of the things they do,” Sutin said. “And that will point to places to intervene.”

The couple met when they were researchers at the National Institute of Aging in Baltimore, Md., and married a few years later. They joined the College of Medicine in August 2012. Their mutual research interests are part of a way of life – a conversation at breakfast could be the genesis of a new study.

For what it’s worth, Sutin is considered in Five Factor Model-speak to be above the median for the personality domains of neuroticism, openness and conscientiousness and below the median for extraversion. Terracciano is average for extraversion, agreeableness and neuroticism and higher for openness and conscientiousness.

Their work, of course, piques the interest of curious family members. They’ve pulled aside more than one who exhibited personality traits associated with certain health risks.

“But they tend not to listen,” Sutin said.

“An important thing to remember,” she added, “is that personality traits are not inherently good or bad; it is the expression that can be positive or negative.”

Sutin would advise readers not to read too much into personalities as a predictor of what’s in store for the future, but to consider things that could improve the odds of living a healthier, happier life.

She offers the couple’s approach to parenting as a lesson in keeping these research discoveries in perspective. Though Sutin and Terracciano have spent years studying the links between personality traits and health, they don’t let what they know unnerve their parental instincts in raising daughter Baia, age 3.

“Much of parenting is channeling children’s impulses, desires, interests, skills and so forth in a constructive and socially desirable direction,” Sutin said. “This applies to personality traits, too.”



44. Seldom get lost in thought.

Very inaccurate	Moderately inaccurate	Slightly inaccurate	Slightly Accurate	Moderately Accurate	Very Accurate
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45. Like to supervise the work of others.

Very inaccurate	Moderately inaccurate	Slightly inaccurate	Slightly Accurate	Moderately Accurate	Very Accurate
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46. Spent 10 minutes or more in a non-grocery store.

Never in my life	Not in the past year	< 3 times in the past year	3-10 times in the past year	10-20 times in the past year	> 20 times in the past year
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WHERE DO YOU FIT IN?

To help study how personality traits impact physical and mental health outcomes, different groups of researchers developed and refined the Five Factor Model (FFM) as a global measure of personality.

The FFM, which describes individuals in terms of five fundamental traits, is considered state-of-the-art in terms of a scientific model of personality traits.

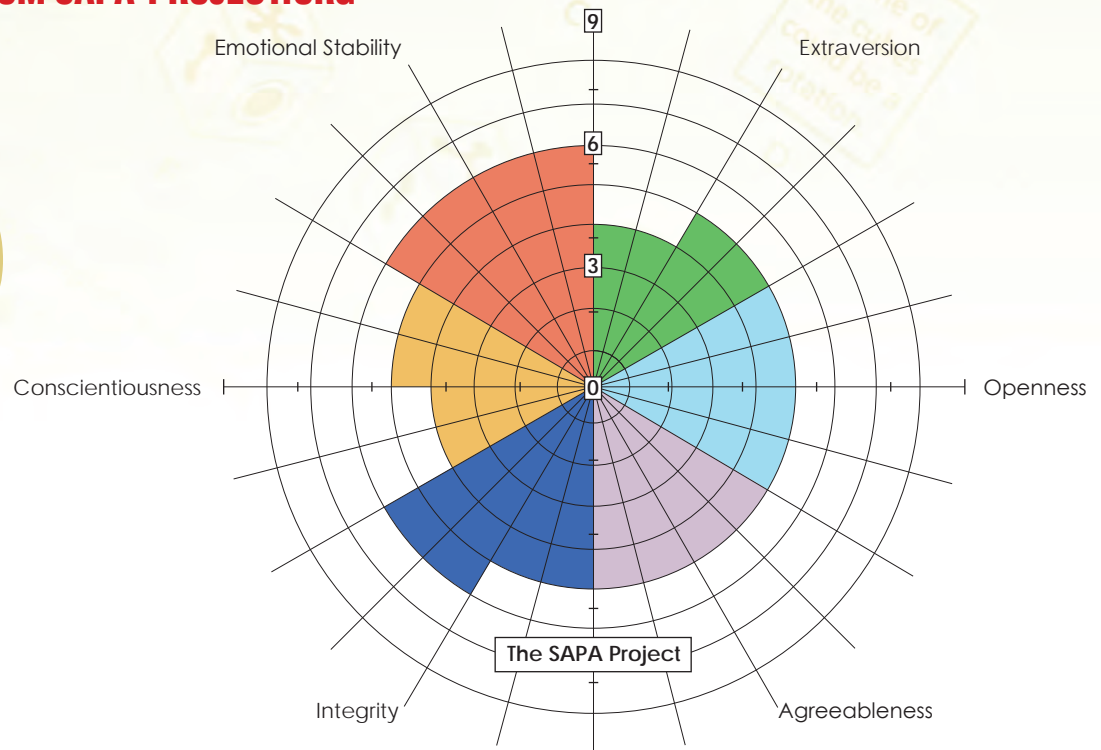
The model was developed on the assumption that all the important measures of a personality are encoded into language. Researchers gave study participants long lists of adjectives and asked them to rate themselves according to how well they thought each word applied in their case.

Using a technique called factor analysis, the researchers boiled the answers down to apply to underlying factors. The five domains of personality in this model are openness to experience, conscientiousness, extraversion, agreeableness and neuroticism.

College of Medicine researchers Angelina Sutin and Antonio Terracciano use the FFM in a number of their studies, including some of those described in the preceding pages.

Want to get a quick reading about your personality? Sutin and Terracciano recommend a website run by researchers from Northwestern University. Get your personality profile by visiting sapa-project.org

A SAMPLE PROFILE FROM SAPA-PROJECT.ORG





OLDER AND HAPPIER

COLLEGE OF MEDICINE RESEARCHERS DISCOVER REASONS FOR OPTIMISM

BY DOUG CARLSON

Gina Sutin and Antonio Terracciano named their daughter, Baia, after a small town near his home in Italy.

For most, the idea of living a long life is a pleasant one. Growing old? Not so much.

College of Medicine assistant professors, spouses and research partners Angelina Sutin and Antonio Terracciano recently created a buzz when they took a closer look at factors related to that paradox.

They didn't set out to help people feel better about getting old, they just had lots of unanswered questions about the correlation between aging and happiness.

They wondered why so many studies say people get less happy as the years go by, when there are so many individual stories that seem to say the opposite. Many people, after all, learn to appreciate life more as they age, not less.

Sutin and Terracciano thought maybe looking at available data from a different angle could offer some insight.

"We were particularly interested in exploring the cohort effect – what impact a person's year of birth has on their overall level of well-being as they get older," Sutin said.

Some previous studies have found that older adults have lower well-being compared to younger adults, but well-being has generally been assessed at just one point in time. By following individuals over the years with a longitudinal design that accounted for cohort differences, Sutin and Terracciano found something altogether different.

“When we looked at it that way it turns out that people, on average, maintain or increase their sense of well-being as they get older,” Sutin said. “But the overall level of well-being depends on when a person was born.”

The research utilized two large-scale longitudinal studies, examining data collected from several thousand people spanning a period of 30 years. Included were more than 10,000 reports about individual feelings of well-being and health.

One, the National Institutes of Health Baltimore Longitudinal Study of Aging, included nearly 2,300 highly educated people with an average age of 69 living mainly in the Baltimore area between 1979 and 2010.

The other, from the Centers for Disease Control, included a representative sample of the U.S. population involving more than 3,000 adults in their late 40s and 50s.

At first, Sutin and Terracciano looked at the data across the entire pool of participants and found that the older adults reported lower levels of well-being than the middle-aged and younger adults.

Then they looked again.

“When we took into account the year they were born, we saw reports of satisfaction with life increasing over the participants’



lifetime,” Sutin said. The trend remained even when taking into account factors such as individual health, ethnicity and level of education.

What the results suggest is that previous studies may have misattributed a general decline in feelings of well-being to aging. In fact, previous studies may have drawn some flawed conclusions based on the way older people were being compared to younger people.

Such comparisons didn’t take into account initial differences in levels of happiness.

Sutin and Terracciano found that certain generations may have started from an overall lower level of satisfaction due to non-biological factors, such as being born during the Great Depression.

Their study, published in *Psychological Science* and subsequently reported by media outlets worldwide, offers hope even to those born in difficult times. The last decade, for instance, has been a sobering one for many. The specters of terrorism, wars, high levels of unemployment and economic uncertainty have had a profound impact.

Although the research suggests that people born during a troubling period may not catch up in overall level of happiness with those born during times of greater prosperity, there is nevertheless a measurable improvement over time.

“Relative to their starting point, all of the cohorts increased rather than decreased in well-being with age,” Sutin and her colleagues wrote.

“On average, people maintain or increase their sense of well-being as they get older, but the overall level of well-being depends on when a person was born.”

-- Angelina Sutin, Ph.D., assistant professor of medical humanities and social sciences



COLIN HACKLEY

BUILDING A CLINICAL RESEARCH NETWORK, ONE PRACTICE AT A TIME

BY RON HARTUNG

Your doctor is also a teacher,” reads the sign in the waiting rooms of 2,100 College of Medicine faculty physicians statewide. Soon another sign could hang beside it: “Your doctor is also a researcher.”

Little by little, those community physicians are being united into FSU’s vast Clinical Research Network (CRN) – which is collaborating with the University of Florida’s research powerhouse. In less than two years, the network has conducted two pilot studies. It’s getting ready to launch a third. And Associate Dean for Clinical Research Michael Muszynski, M.D., says two

major ones are around the corner.

“In 10 years, I fully believe that we’ll be engaged in phenomenal community-based research at all six regional campuses,” said Myra Hurt, Ph.D., senior associate dean for research and graduate programs. “At this stage, the challenge is figuring out how to make it effective and long-lasting.”

Among the challenges are persuading busy medical practices to undergo online human-subject and study-related training; managing a network of practices that differ greatly in staffing, technology and populations; and navigating the red tape involved whenever humans are used as research subjects.

“It’s like walking in molasses,” Hurt said. “But a big initiative like this takes time.”

The potential benefits are breathtaking: doing research that includes diverse, rural and underserved patients rarely represented in typical studies; inviting community physicians to offer their own research ideas; and translating research more quickly into improved care.

Muszynski is honing this sales pitch as he meets with faculty physicians: “I have something that’s going to immediately help your patients. They’re going to love it. You’re going to love it. This is also your chance to be part of a big academic endeavor with two major universities. And you’ll get recognition that you’ve never had before. So what do you say?”

Sometimes they say, “Sign me up!” But building the CRN is not always so easy.

PARTNERS IN TRANSLATIONAL RESEARCH

The magic word in medical research now is “translational.” That is, translating research into improved community health care.

That community emphasis helped set the stage for Health IMPACTS for Florida – a collaboration between FSU and UF that’s central to the pilot projects that jump-started the CRN.

“We’d already built this education network of campuses and community physicians across the state,” Muszynski recalled. “So we thought: Why couldn’t we layer on top of that a practice-based research network?”

“UF got wind of what we were doing and got really interested. In 2009, the University of Florida had received a \$25 million Clinical and Translational Science Award from the National Institutes of Health and recognized how valuable our network of community providers would be. So UF came to us and said, ‘Let’s work out a deal.’ Eventually we became partners. The collaborative would then involve practices in six cities of the FSU regional campuses, three FSU rural sites and two UF cities, covering an amazing cross-section of Florida’s population.

“Around the same time, a deadline was looming for a state grant through the Board of Governors called Cluster Awards, for up to \$600,000. Together we said, ‘Let’s propose this collaborative as our cluster application.’”

In 2010, the two schools were awarded the \$600,000 and jointly launched Health IMPACTS for Florida (“Integrating Medical Practice And Community-based Translational Science”). In 2012, Health IMPACTS embarked on its pilot studies, both of which were conducted using an iPad. One taught pediatricians and family doctors to use a concussion assessment tool with young athletes; the other implemented an adolescent health-risk assessment tool to identify risk behaviors in teens and then provide physicians with referral services for those risks. Data are being gathered, analyzed and prepared for publication and have already been presented at national research meetings.

The FSU-UF partnership is thriving, Muszynski said. Because some people find it confusing, he clarified that Health IMPACTS did not replace FSU’s Clinical Research Network. The FSU network partners with UF but also can partner with other institutions or conduct its own studies. That flexibility offers what he calls “a synergistic web of collaborations.”

“It’s like walking in molasses. But a big initiative like this takes time.”

- Myra Hurt

▶ The iPad is at the heart of the CRN’s two pilot studies, one related to detecting concussion symptoms among young people and one related to assessing teenagers’ health risks. Young people are more comfortable using the iPad than paper.

Pediatricians Nickeey Malcolm, left, and Debbie Andree consult with Michelle Vinson, center, director of the Clinical Research Network.



Nickey Malcolm is one of the three pediatricians at Pine Hills Family Health Center in Orlando, a key participant in the CRN's pilot study on health risk assessments.

PUTTING THE 'WORK' IN 'NETWORK'

Since the skeleton of the network was already in place, a casual observer might think, "This should be a breeze." Not so. "There were a lot of hiccups," Muszynski said of the pilot projects. "Birthing a research network is almost as messy as giving birth to a human being, but birth brings new wonders."

For example, anyone at FSU who wants to do research involving human subjects must obtain approval from the governing IRB (Institutional Review Board), created to protect the rights and welfare of subjects participating in research. But if you have two universities and multiple community-based practices and hospital systems involved in your study, that means eight IRB review board submissions and approvals. And if you tweak your study protocol later, you must obtain approval from each board again.

Having one IRB would make life much simpler.

"We've been talking about it for a year and a half," Hurt said. "We've got a proposal that UF would serve as the central IRB for Health IMPACTS studies."

Another challenge is that each practice is different. Both pilot studies relied heavily on iPads, so WiFi was essential. Some offices have it; some don't. Some offices are IT-savvy; some aren't. So Clinical Research Associate Jessica De Leon, Ph.D., in Tallahassee



Associate Dean for Clinical Research
Michael Muszynski

and CRN Director Michelle Vinson, M.S., in Orlando visit each site to help solve study-related issues.

"There's a lot of IT troubleshooting, which can be very challenging," Vinson said. "You just learn it. How it works, how to make it work, how to not interrupt their practice flow – you're constantly coming up with ideas off the top of your head to find an answer."

"Sometimes they can implement your suggestions. And other times it's, 'My front desk staff is too busy to assist with patient recruitment or informed consent.'"

But Vinson values the relationships she builds with these practices. She knows how busy they are. "You've got to find solutions that are a fit for each practice," she said.

She and Muszynski take the long view.

"You don't want to get too depressed if something fizzles," he said, "because you know there's something else right around the corner. It typically takes five years to get a research network really cranking. We're barely two years old."



IN THE FUTURE

CHRIS GOTSHALL

What's next?

"With UF, we're going to be putting together a call for proposals to get three or four more research projects going," Hurt said. "We want to have at least two from here."

Heather Flynn, Ph.D., vice chair for research in the Department of Medical Humanities and Social Sciences, has two in the works. She hopes to involve as many as four regional campuses in research on depression in women during or just after pregnancy – with an emphasis on socioeconomic, racial and ethnic diversity. The other project would help the CRN build the capacity to do patient-centered research and "comparative effectiveness research" – a way to study which kinds of interventions and health-care decisions are best for which kinds of patients.

Partnering with longtime rival UF in Health IMPACTS opens up unimaginable possibilities, Muszynski said.

"This makes us competitive for major grants," he said. "These projects will be significant in size and scope. Neither institution could accomplish it alone, but together the potential is *tremendous*."

"It typically takes five years to get a research network really cranking. We're barely two years old."

- Michael Muszynski

NOT SURE ABOUT RESEARCH? ASK DR. ANDREE

ORLANDO – Debbie Andree is crazy about kids, so she became a pediatrician. She likes to treat patients who really need her, so she's practiced in a rough-edged neighborhood for 10 years.

And she refuses to let her minority patients be left behind, so she's an enthusiastic participant in the College of Medicine's Clinical Research Network.

In fact, the practice she shares with Drs. Nickey Malcolm and Anabella Torres recruited more than 50 teenagers for the CRN's health risk assessment study – more than any other site in Orlando.

"Only if you're involved in research or education can you stay current and make your practice better," said Andree, chief of pediatrics at Community Health Centers. "When you get away from the university or residency program setting, you start to be stuck in the old ways.

"Our practice had already been involved with the FSU College of Medicine because they had students here, so I thought it was the perfect partnership. We had a lot of support. We also wanted to have our patient population represented in a study of this magnitude. This is something that doesn't come along often."

Like everyone else, she wasn't thrilled about spending several hours on human-subjects training. But she wouldn't dream of letting that minor hurdle keep her from joining the network.

"I think anything worth doing takes some work," she said. "I knew that with the backing of the people at FSU and UF, this could only be good."

The network's creators promise community physicians they'll get to offer their own research ideas. Andree already has two: (1) Study factors that help young black men feel part of the community (more than 80 percent of her patients are African-American). (2) Study ways to retain physicians who, like her, devote their careers to community medicine.

– Ron Hartung



CHRIS GOTSHALL

"I knew that with the backing of the people at FSU and UF, this could only be good."

- Debbie Andree, chief of pediatrics
at Community Health Centers

A portrait of Mohamed Kabbaj, a man with short dark hair and glasses, wearing a light blue button-down shirt. He is looking directly at the camera with a slight smile. The background is a blurred green, suggesting an outdoor setting with foliage.

LOVE AT THE MOLECULAR LEVEL

COLIN HACKLEY

BY JULIE JORDAN

Mohamed Kabbaj

Ever wonder what might be going on beneath the surface as you cuddle with a loved one, spend quality time together and develop deeper intimacy? Why do you continue to desire time together during your time apart? The answer may be more than just attraction and warm feelings.

According to College of Medicine researcher Mohamed Kabbaj, the answer involves a change in genetic makeup. Without altering actual DNA, gene expression changes during this time of relationship development for one animal in particular – and potentially for humans as well.

The animal Kabbaj and his team chose to focus on was the prairie vole. This small mammal looks similar to a hamster, but don't let this image of a child's pet fool you. Socially, prairie voles behave very similarly to humans.

When random partners of the opposite sex spend time together, prairie voles begin to become socially attached to each other. After consummating the relationship, they stay together for life as a couple. They are not only physically monogamous but socially monogamous. In some cases, even after

death, the widowed animal will not develop this social bond again.

Humans develop similar attachments, sometimes resulting in the same commitment, but exactly how similar are we to this little creature?

"I think the particular thing about prairie voles is when they mate and spend time together, they develop social bonding for life," said Kabbaj, who recently published his latest social attachment findings in *Nature Neuroscience*. "This social monogamy produces aggression toward intruders, including those of the opposite sex, and shared parental care activities. Some cheat occasionally, like humans, but they always go back home to their mate. That's what makes them unique to study."

As a result of these behaviors, prairie voles are a common model for making educated guesses about what may be going on biologically for humans when social attachments form.

"It's important to understand social attachment and the mechanism behind social attachment, even in these creatures, because they help us understand ourselves," said Kabbaj, a professor in the Department of Biomedical Sciences.

And for humans, the benefits of a close, committed relationship are numerous.

“In humans, it has been shown that this social attachment – the formation of this strong couple, a healthy couple – leads to an increase in life expectancy, a reduction in psychological disorders, a stronger immune system and a stronger cardiovascular system,” said Kabbaj.

Those without such close, healthy relationships and attachments, or those who struggle to form them, such as autistic children, may not reap such benefits.

Until Kabbaj published his findings, the genetic mechanism behind these close, socially monogamous relationships in prairie voles was unknown. He and his team have shown the “epigenetic” basis for the formation of this behavior in prairie voles – findings that may be helpful during clinical trials and in treating humans later.

“Epigenetics is everything that can change gene expression without changing the structure of DNA itself,” said Kabbaj.

Changes in our environment, such as stress and diet, or major life events, such as puberty and pregnancy, can all increase or decrease the expression of different genes, potentially altering us permanently. Epigenetics is what causes these changes.

With prairie voles, it is mating and quality time with the partner that changes their gene expression to facilitate social bonding and a preference for the partner. This is what Kabbaj calls “partner preference formation,” and the basis for it is biological.

Think of everything that makes you feel happy. Then imagine a place in your brain that controls this emotion. This is the pleasure center of the brain. It is where reward and social attachment are controlled. Genes here can be expressed more fully or silenced, depending on epigenetic changes.

Kabbaj and his team set out to discover the epigenetic basis for the permanent change in prairie voles after they mate and become socially monogamous for life.

In their experiment, Kabbaj and his lab allowed random vole partners to cohabit for six hours without mating. Then they administered a drug to the females that loosens chromatin around DNA in the pleasure center of the voles’ brains.

After this, they saw an increase in expression of the pleasure-related genes. The females then chose between their cohabitation partners and a stranger.

Kabbaj’s findings showed that the females consistently chose their cohabitation partners as a result of the cohabitation time and the drug. They also huddled, the human equivalent of snuggling, with their partner for up

to three hours after the drug was administered.

This was the first experiment to show epigenetic mechanisms at work in partner preference.

Does this mean that individuals who spend quality time together and take the same drug will develop a stronger social attachment?

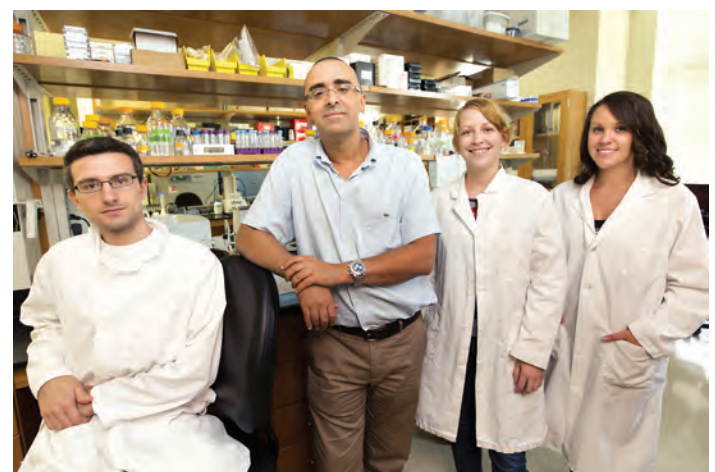
“People are using the drug we used in our experiment already to treat depression, epilepsy and cancer,” said Kabbaj. “Clinical trials to determine whether it will increase social attachment are needed. Hopefully, if we can give it to autistic kids, for example, we can determine whether it helps strengthen social attachment in humans. The potential is there.”

“It’s important to understand social attachment and the mechanism behind social attachment, even in [prairie voles], because they help us understand ourselves.”

- Mohamed Kabbaj

Imagine a boy who makes little or no eye contact and lacks interest in peer relationships who is diagnosed with autism. Imagine the boy grown up with minimal feelings of attachment toward loved ones. Now imagine the healing effects of increased social bonding and love that could improve his quality of life and overall health. Kabbaj’s study points to this potential.

“The prairie vole model has been used as a model for love,” said Kabbaj. “These animals show a strong bond when you see them huddling together. I cannot prove that they love each other, but at least at the molecular level, you can see it.”



Mohamed Kabbaj with his research team (from left): Florian Duclot, Katherine Wright and graduate student Amanda Dossat.

COLIN HACKLEY

CLASS OF 2013 RESIDENCY MATCH

ANESTHESIOLOGY (4)

Christina Brown, Barnes-Jewish Hospital (Mo.)

Alexa Kaminski, University of Texas Southwestern Medical School-Dallas (Texas)

Souhail Karram, Baylor College of Medicine-Houston (preliminary-internal medicine, Orlando Health) (Texas)

Diana Marchese, Maine Medical Center (Maine)

DERMATOLOGY (1)

Andrea Taylor, University of Florida College of Medicine-Shands Hospital (Fla.)

EMERGENCY MEDICINE (13)

Brian Bauerband, University of Alabama Medical Center-Birmingham (Ala.)

Felicia Blais, Vidant Medical Center-East Carolina University (N.C.)

Meghan Fabrizi, University of Connecticut School of Medicine (Conn.)

Wing-Yin Kwan, University of Missouri-Kansas City School of Medicine (Mo.)

Philip Lin, Orlando Health (Fla.)

Stephen Lozier, Wake Forest Baptist Medical Center (N.C.)

Babak Missaghi, Harbor-University of California Los Angeles Medical Center (Calif.)

Bethann Mohamed, Yale-New Haven Hospital (Conn.)

David Page, University of Alabama Medical Center-Birmingham (Ala.)

Fernando Parra-Ferro, Palmetto Health Richland (S.C.)

Amit Patel, Thomas Jefferson University (Pa.)

Maria Rucinski, University of Texas Southwestern Medical School-Dallas (Texas)

Karina Walker, Louisiana State University Health Sciences Center-Shreveport (La.)

EMERGENCY MEDICINE-FAMILY MEDICINE (1)

Leah Williams, Louisiana State University Health Sciences Center-Shreveport (La.)

FAMILY MEDICINE (23)

Catherine Acob, Halifax Medical Center (Fla.)

Labake Bankole, St. Vincent's Medical Center (Fla.)

Emile Barreau, Jackson Memorial Hospital (Fla.)

Eva Bellon, Halifax Medical Center (Fla.)

Zeena Mae Bentinganan, Florida Hospital-Orlando (Fla.)

Jason Boothe, Carolinas Medical Center (N.C.)

Aleksandra Clayton, Florida Hospital-Orlando (Fla.)

Stephen Cooke, Southern Regional Area Health Education Center Family Medicine Residency Program (N.C.)

Laura Davis, AnMed Health Medical Center-Anderson (S.C.)



Cory Duncan, Tallahassee Memorial HealthCare (Fla.)

Michael Glickman, Virginia Commonwealth University-Fairfax (Va.)

Shaun-Pierre Hall, St. Vincent's Medical Center (Fla.)

Andrew Hogan, Naval Hospital Camp Pendleton (Calif.)

Jason Konopack, University of Florida College of Medicine-Shands Hospital (Fla.)

David Mendoza, Bayfront Medical Center (Fla.)

Jennifer Miller, Wake Forest Baptist Medical Center (N.C.)

Kate Nelson, Atlanta Medical Center (Ga.)

Jennifer Owen, Contra Costa Regional Medical Center (Calif.)

Sheallah Palmer, Florida Hospital-Orlando (Fla.)

Dale Taylor, University of Florida College of Medicine-Shands Hospital (Fla.)

Anand Vakharia, St. Vincent's Medical Center (Fla.)

Natalie Williams, Florida Hospital-Orlando (Fla.)

Mary Woods, St. Vincent's Medical Center (Fla.)

INTERNAL MEDICINE (20)

Jesse Boodoo, Palmetto Health Richland (S.C.)

Garrett Brown, University of Florida College of Medicine-Shands Hospital (Fla.)

Andrew Calzadilla, Jackson Memorial Hospital (Fla.)



Monica Chatwal, Emory University School of Medicine (Ga.)

Marc Cillo, Carolinas Medical Center (N.C.)

Ashley Dlugokienski, Orlando Health (Fla.)

Sarah Genet, Georgetown University/Washington Hospital Center (Washington, D.C.)

Patrick Gill, Carolinas Medical Center (N.C.)

Zachary Hale, University of Michigan Hospitals-Ann Arbor (Mich.)

Joshua Hayes, University of Tennessee Graduate School of Medicine-Knoxville (Tenn.)

Austin Henkel, Florida State University College of Medicine-Tallahassee Memorial HealthCare (Fla.)

Richard Jones, Johns Hopkins/Bayview Medical Center (Md.)

Carlos Leon, University of Florida College of Medicine-Shands Hospital (Fla.)

Brittany McCreery, Thomas Jefferson University (Pa.)

Desiree Pappas, University of Texas Health Science Center-San Antonio (Texas)

Vikalp Patel, Baptist Health System (Ala.)

Kyle Powers, Santa Barbara Cottage Hospital (Calif.)

Richard Ramonell, Emory University School of Medicine (Ga.)

Shawn Shah, Dartmouth-Hitchcock Medical Center (N.H.)

Joshua Smith, New York Presbyterian Hospital-Weill Cornell Medical Center (N.Y.)

MEDICINE-PEDIATRICS (1)

Erica Steinvorth, University of Maryland Medical Center (Md.)

NEUROLOGICAL SURGERY (1)

Zach Folzenlogen, University of Colorado School of Medicine-Denver (Co.)

OBSTETRICS/GYNECOLOGY (10)

Caitlin Dunham, Florida State University College of Medicine-Sacred Heart Hospital (Fla.)

Amy Haddock, University of Florida College of Medicine-Jacksonville (Fla.)

Jacob Lassiter, University of South Alabama Hospitals (Ala.)





Kathryn Powell, George Washington University (Washington, D.C.)

Elisabeth Sappenfield, University of South Florida College of Medicine-Tampa (Fla.)

Tabitha Schrufer-Poland, University of Missouri-Kansas City School of Medicine (Mo.)

Shannon Scott, Orlando Health (Fla.)

Cindy Turco, University of Tennessee College of Medicine-Memphis (Tenn.)

Zachary Tyser, Palmetto Health Richland (S.C.)

Sarah Weaver, Tulane University School of Medicine (La.)

PATHOLOGY (2)

Mary-Margaret Allen, Vanderbilt University Medical Center (Tenn.)

Erin Bascom, University of South Alabama Hospitals (Ala.)

PEDIATRICS (16)

Christina Baldwin, University of South Florida College of Medicine-Tampa (Fla.)

Sarah Barnette, San Antonio Uniformed Services Health Education Consortium (SAUSHEC-Air Force) (Texas)

Nicole De Jesus Brugman, University of Tennessee College of Medicine-Memphis (Tenn.)

Emily Dodenhoff, Greenville Hospital System/University of South Carolina (S.C.)

Amanda Garnett, Louisiana State University School of Medicine-New Orleans (La.)

Jasmeet Kataria, University of Michigan Hospitals-Ann Arbor (Mich.)

Cynthia Laroche, Brooklyn Hospital Center (N.Y.)

Gabriele Messmer, Palmetto Health Richland (S.C.)

Mary Norton, Greenville Hospital System University Medical Center (S.C.)

Raquel Olavarrieta, Miami Children's Hospital (Fla.)

Roxanne Samuels, Morehouse School of Medicine (Ga.)

Kyle Solari, Miami Children's Hospital (Fla.)

Heather Staples, Palmetto Health Richland (S.C.)

Melissa Velarde, Orlando Health (Fla.)

Kathryn Winn, Carolinas Medical Center (N.C.)

Claudia Zapata, Miami Children's Hospital (Fla.)

PSYCHIATRY (2)

Elizabeth Ault, Louisiana State University School of Medicine Our Lady of the Lake Regional Medical Center-Baton Rouge (La.)

Jason Lorenzen, University of Colorado School of Medicine-Denver (Co.)

RADIOLOGY, DIAGNOSTIC (3)

Michele Edison, Florida Hospital-Orlando (preliminary-internal medicine, Orlando Health) (Fla.)

Matthew Moss, University of Florida College of Medicine-Shands Hospital (preliminary-internal medicine, FSU College of Medicine/TMH) (Fla.)

Luby Sidoff, Rhode Island Hospital/Brown University (transitional, Riverside Regional Medical Center) (R.I.)

SURGERY, GENERAL (11)

Ahkeel Allen, Medical Center of Central Georgia Mercer University School of Medicine (Ga.)

Lisa Cunningham, Halifax Medical Center (Fla.)

Justin Dvorak, Loyola University Medical Center (Ill.)

Kimberly Hemphill, Emory University School of Medicine (Ga.)

Jonathan Imran, University of Texas Southwestern Medical School-Dallas (Texas)

Stephenie Pollock, Florida Hospital-Orlando (Fla.)

Benjamin Powell, University of Tennessee College of Medicine-Chattanooga (Tenn.)

Kathleen Relihan, Orlando Health (Fla.)

Rashad Sullivan, Wake Forest Baptist Medical Center (N.C.)

Collin Tully, St. Elizabeth Health Center Northeast Ohio Medical University (Ohio)

Brittany Warren, Orlando Health (Fla.)

SURGERY, ORTHOPEDIC (3)

Brandon Cook, Ochsner Clinic Foundation (La.)

Andrew Garber, University of Louisville School of Medicine (Ky.)

Kenneth McAlpine Jr., Boston University Medical Center (Mass.)

UROLOGY (2)

Umar Karaman, Louisiana State University Health Sciences Center-Shreveport (preliminary-surgery) (La.)

Christopher J. Martin, Mayo Clinic (preliminary-surgery) (Ariz.)



GROWING SUPPORT FROM OUR ALUMNI

With the addition of 113 new graduates in May, the College of Medicine now has 680 alumni. It is, by a wide margin, the smallest alumni base of any medical school in the country, save those new programs that recently graduated their first class.

Yet, it's a loyal group, with many of its members joining the College of Medicine faculty, agreeing to serve as mentors and provide clinical teaching for current students. Combined with more than 800 graduates of the Program in Medical Sciences (PIMS), the College of Medicine's alumni association is serving in other ways, too.

For example, numerous PIMS and medical school alumni have registered with Help Our Students Travel (HOST) to provide a room for fourth-year students in town for residency interviews. It's a way to help students control some of the costs of travel and to share insights about the local medical community.

Starting this fall, alumni also will have the opportunity to participate in informal Friday luncheons with medical students, answering questions about experiences that have proven beneficial on the way to becoming a practicing physician. These get-togethers are being planned at the main campus in Tallahassee with the goal of expanding to regional campus locations.

Interested in connecting with College of Medicine students through one of these opportunities? Contact Chelsea Knott, alumni relations and special events coordinator, at (850) 645-9428 or Chelsea.knott@med.fsu.edu

REUNION DATE SET

The Sixth Annual PIMS and College of Medicine Alumni Reunion will take place Saturday, April 12, at the main campus in Tallahassee. On the agenda will be a CME session, a barbecue with faculty and current and future FSU medical students, and a ceremony to honor the first of the College of Medicine's Alumni of Distinction.

Participants also will have the opportunity to join a Q&A with students who have an offer to attend the FSU College of Medicine. They will be on hand as part of Second Look Weekend.

Hotel room blocks will be available at a discounted rate. A save-the-date card was mailed to all PIMS and College of Medicine alumni in August. If you did not receive it, please email Chelsea Knott to update your contact information – Chelsea.knott@med.fsu.edu



MAKE YOUR MARK

You can support student scholarships while also establishing your legacy as a PIMS or FSU College of Medicine graduate by purchasing a commemorative brick. The bricks, on permanent display in the College of Medicine courtyard, also are a great way for parents to honor graduating students.

For more information, or to purchase a tax-deductible commemorative brick, visit med.fsu.edu and follow the links: Giving>Commemorative Gifts>Legacy Celebration Program.





Students who took part in the David Castillo bone marrow drive

David Castillo (M.D., '12) was a star football player at Florida State before entering medical school. He didn't hesitate when current FSU Coach Jimbo Fisher sought help raising awareness about the Kidz1stFund.

Castillo recruited and organized current FSU medical students to help during a bone marrow donor drive held at FSU's new indoor football practice facility in August.

Fisher and wife Candi set up the fund in 2011 after their son Ethan was diagnosed with Fanconi anemia. Their goal is to raise awareness and help fund research. In all, 128 volunteers underwent an oral swab to register as donor matches for patients with FA or other diseases that require a bone marrow transplant.

Nine first- and second-year medical students assisted by completing the oral swabs under the direction of Karen Myers, assistant professor of family medicine and rural health.

"As a physician, I understand all too well the extreme challenges Ethan Fisher will endure in the coming years," said Castillo. "I encourage everyone to join the registry and help those in need of a bone marrow transplant. It's not every day a person gets the chance to save a life."

Most donations are conducted similarly to a blood transfusion, with no surgery needed. To join the National Marrow Donor Program "Be The Match" registry, you must be between ages 18-44, meet certain health guidelines and be willing to donate to any patient in need.



Jimbo Fisher and David Castillo



Mindy Stephenson

IN MEMORY OF A CLASSMATE

The timing was especially painful. During the celebrations taking place amid graduation week at the College of Medicine came news that **Mindy Stephenson** (M.D., '12) had passed away following a brief illness.

Stephenson had been part of the celebration just a year earlier when she and her classmates were buzzing about the completion of med school and the start of their next step toward fulfilling a dream.

Stephenson, 27, was a captain in the Air Force and a first-year resident in internal medicine at San Antonio Military Medical School in Texas when she died May 15.

"Mindy was passionate about medical school and adored her patients. She was eager to get into her clinical years," recalled Andrea Leech, administrator at the Daytona Beach campus, where Stephenson spent her third and fourth years of medical school.

A fund has been established in Stephenson's memory to benefit future third-year students at the Daytona Beach campus.

The Mindy Stephenson Memorial Fund for Orientation will support orientation week activities for incoming third-year students each June. With a minimum of \$25,000 in funding, it will be endowed as an everlasting gift to all future incoming classes at Daytona Beach.

"Mindy was always professional and was respected by peers, faculty and staff," said Daytona Beach Campus Dean Luckey Dunn. "I witnessed Mindy several times in small group sessions sharing her wisdom in a manner that fostered open dialogue."

If you wish to make a donation to honor her, please make out a check to the FSU Foundation and write "Mindy Stephenson Memorial Fund" in the memo line. Please mail the check to:

Charlie Adams
Development Officer
Florida State University College of Medicine Box G-108
1115 W Call St
Tallahassee, FL 32306-4300



Jessica Suber



Stephen Patrick

HAIL TO THE FELLOWS

Stephen Patrick (M.D., '07) recently was named one of 30 finalists to become a 2013 White House Fellow. The White House describes the fellowship program, started in 1964, as a way of providing "gifted and highly motivated young Americans with some first-hand experience in the process of governing the Nation and a sense of personal involvement in the leadership of society."

Patrick and the other finalists met with President Barack Obama's Commission on White House Fellowships in Washington, D.C., in June. The program is described by the White House as "The nation's most prestigious program for leadership and public service."

Also in June, Patrick completed the Robert Wood Johnson Clinical Scholars Program at the University of Michigan. He entered practice as an assistant professor of pediatric medicine at Monroe Carell Jr. Children's Hospital at Vanderbilt University.

HEALING HANDS

Jessica Suber (M.D., '08) recently joined The Healing Hands Foundation on a medical mission trip to Patzun, Guatemala. A group of 42 medical and dental specialists completed 69 surgical cases, including cleft lip repair, cleft palate repair, cleft lip rhinoplasty, hernia repair and excision of lesions such as lipomas, ganglion cysts and tumors.

The group included nurses, scrub technicians, anesthesiologists, pediatric general surgeons, plastic surgeons and a family physician. Suber is a fifth-year resident at the University of South Florida in plastic and reconstructive surgery.

2006

Jeffrey Davenport, M.D., has become a Fellow of the American Academy of Family Practice (FAAFP). He is an assistant clinical professor of family medicine for the Medical College of Georgia.

Shannon Price, M.D., has joined former classmate **Paul Payne, M.D.**, at the private practice he founded in Albany, Ga. – Southwest Georgia Obstetrics and Gynecology. Connect with them at facebook.com/swgaobgyn.

Nick Seeliger, M.D., is a board-certified family physician now serving as assistant professor of family and community medicine at Tulane University Medical School in New Orleans. He and his wife, Kristy, have three children – Noah, Jonah and Liam.

2007

Tamara (Finger) Kolev, M.D., completed the Minimally Invasive Surgery Fellowship at St. Luke's Roosevelt in New York City. She is in practice with Atlas Physicians/Lenox Hill in New York City.

2008

Paola Dees, M.D., recently received the 2012-2013 Excellence in Pediatric Clinical Teaching Award from the University of South Florida Pediatric Residency Program. Dees, a pediatric hospitalist at All Children's Hospital in St. Petersburg, and her husband welcomed their first child Jan. 1 – Miles Jameson Dees (photo inset). Dees also recently published chapters in two books, one in "A Handbook of Inpatient Pediatrics," published by the American Academy of Pediatrics, and the other (about the media's role in vaccine misinformation and vaccines and the Internet) in "Vaccinophobia and Vaccine Controversies of the 21st Century."



Kit Lu, M.D., is completing a fellowship in hematology/oncology at the NIH Heart, Lung and Blood Institute in Bethesda, Md.

Marla Mickel Trapp, M.D., is a house physician at a skilled nursing and rehabilitation facility in Jacksonville following completion of the family medicine residency program and a geriatrics fellowship at Florida Hospital in Orlando. She is a member of the clerkship faculty for the College of Medicine's Daytona Beach Regional Campus. Dr. Trapp and her husband have a son, Jason Micah Trapp, age 1.

Ivan Porter, M.D., completing a nephrology fellowship at Mayo Clinic in Jacksonville, has two children – Eva (born June 18) and Averie, who will be 3 in November.

2009

Amy (Gordon) Harrison, M.D., is a family physician with Patients First Tallahassee. She and her husband, Joshua, have three children – stepson Logan, 8, and daughters Whitney, 2, and Weslee Grace, 4 months as of Sept. 1.

William Higgins received the Haffenreffer Family House Staff Excellence Award from the Brown University Department of Dermatology. The award recognizes residents and/or fellows for outstanding performance as demonstrated through excellence in clinical and professional service, professionalism, leadership and scholarly activities. Higgins is one of five individuals to receive the Haffenreffer Family House Staff Excellence Award for 2013 at Rhode Island Hospital. Higgins is currently a Mohs Fellow of dermatology.

Erin Mariano, M.D., was named chief resident of the LSU Health Science Center Shreveport orthopedic surgery residency program. After residency she will complete the American Sports Medicine Institute orthopedic sports medicine fellowship at Trinity Medical Center in Birmingham, Ala.

Mikelson MomPremier, M.D., completed the ophthalmology residency program at Howard University Hospital in Washington, D.C., and is in fellowship at the Valley Retina Institute in McAllen, Texas.

Jessica Lauren Walker Ruoss, M.D., graduated from the pediatrics residency program at Medical University of South Carolina and began the Harvard University Neonatal-Perinatal Medicine Fellowship Program on July 1.

Leslie (Haney) Sanders, M.D., completed the OB-GYN residency program at Beaumont Health System in Royal Oak, Mich. in June and is now a practicing OB-GYN with Baptist Hospital in Pensacola.

2010

Brandon Allen, M.D., was inducted into the Chapman Chapter of the Gold Humanism Honor Society at the University of Florida College of Medicine, where he is an assistant professor and assistant medical director of emergency medicine. He developed and is about to publish "Quick Hits for Emergency Medicine," a book that targets the most salient points in everyday emergency department cases.

Tanya Anim, M.D., is the Women's Health and Obstetrics Fellow at Florida Hospital in Orlando for 2013-14. One student per year is selected for the fellowship.

Danielle Barnes, M.D., is in the Pediatric Gastroenterology Fellowship Program at Stanford University School of Medicine in Palo Alto, Calif.

Melissa (Graham) Genualdi, M.D., completed the Creighton-Nebraska Universities Joint Pediatric Residency Program and is now a pediatric hospitalist and clinical instructor at Seattle Children's Hospital.

Uchenna Ikediobi, M.D., graduated from the internal medicine residency program at the University of Iowa and is in the Infectious Diseases Fellowship at Yale University School of Medicine in New Haven, Conn.

Arif Ishmael, M.D., was selected to be chief resident in patient safety and quality improvement at the Malcolm Randall Veterans Administration Hospital at the University of Florida in Gainesville.

Melissa Kozakiewicz, M.D., is administrative chief resident of the Obstetrics and Gynecology Residency Program at Wake Forest University. After residency, she plans to practice with Ladies First OB/GYN, Baptist Medical Group, in Pensacola. Dr. Kozakiewicz and her husband, Jordan, welcomed their first child, Clara, in 2012.

Chiaka (Igwe-Onu) Oparaocha, M.D., graduated from the Orlando Health Internal Medicine Residency Program and is a hospitalist at Florida Hospital in Orlando.

Fernando Porter, M.D., graduated from the family medicine residency program at Chestnut Hill Hospital in Philadelphia and is a family physician with MedStar Urgent Care in Philadelphia.

Justin Matthew Ruoss, M.D., graduated from the pediatrics residency program at Medical University of South Carolina and began the Harvard University Pediatric Cardiology Fellowship Program on July 1.

Jill Ward, M.D., is an emergency physician and associate faculty member in emergency medicine for the University of Florida at Winter Haven Hospital.

Amanda White, M.D., served as chief resident of internal medicine at Greenwich Hospital–Yale New Haven Health before graduating in June. She is now in the Pulmonary and Critical Care Medicine Fellowship Program at Medical College of Georgia in Augusta.

2011

Rachel Bixler, M.D., is chief resident of the Family Medicine Residency Program at Wake Forest Baptist Medical Center. (See news about her husband, Josh James, below.)

Rafael de la Puente, M.D., is chief resident at the University of Massachusetts Medical School Emergency Medicine Residency Program in Worcester, Mass.

Jackson Hatfield, M.D., is co-chief resident of family medicine at the LSU Family Medicine Residency Program (Ochsner Medical Center) in Kenner, La.

Joshua James, M.D., is a chief resident of the Emergency Medicine Residency Program at Wake Forest Baptist Medical Center.

Gregory Peters, M.D., is a chief resident of the Emergency Medicine Residency Program at Wake Forest Baptist Medical Center.

Natasha Spencer, M.D., has joined the College of Medicine's faculty in Pensacola. She was selected to participate in the 2013 American College of Obstetricians and Gynecologists Ob-Gyn Reporter Program at the ACOG national meeting in New Orleans.

2012

Michelle Harper, M.D., received the Arnold P. Gold Foundation Humanism and Excellence in Teaching Award at the Morehouse School of Medicine Student Clinician Awards Ceremony in July. She is a second-year resident in pediatrics at Morehouse.

Jennifer Packing-Ebuen, M.D., placed second in the resident category of the Florida Academy of Family Physicians spring poster presentation. She is a second-year family medicine resident at Florida Hospital in Orlando. At the same competition, incoming Florida Hospital resident Aleksandra Clayton placed first in the medical student category, prompting the residency program's director to send a note to all residents at the hospital in which he wrote, "FSU-trained residents have thrown down the gauntlet: will other residents respond?"

Jessica (Gondela) Schwarz, M.D., was married May 3. Her husband, Michael, is a pharmacist in the emergency room where she is currently a second-year resident with the Mayo Clinic Emergency Medicine Residency Program in Rochester, Minn. They met during her first month as a resident.

Aaron Snyder, M.D., a first-year resident of emergency medicine at the University of Connecticut, published an article, "Brachial artery injuries in children," with *PubMed*.

2013

Gabrielle (Messmer) Boodoo, M.D., and **Jesse Boodoo, M.D.**, were married May 24 in Daytona Beach, where both completed their third and fourth years of medical school at Florida State. Both are first-year residents at Palmetto Health Richland–University of South Carolina School of Medicine in Columbia, S.C., she in pediatrics and he in internal medicine.

Aleksandra Clayton, M.D., a first-year resident of family medicine at Florida Hospital in Winter Park, won the medical student division of the Florida Academy of Family Physicians' spring poster presentation.

Alexa (Kaminski) Courtney, M.D., was named Outstanding Visiting Medical Student from among the incoming residents at the UT Southwestern Medical Center. She is in her first year with the medical center's anesthesiology residency program.

Kimberly Hemphill, M.D., and **Richard Ramonell, M.D.**, are engaged to be married. Their wedding is planned for the spring at Piedmont Park in Atlanta. Both are residents at the Emory University School of Medicine in Atlanta – she in general surgery and he in internal medicine. They met on the first day of medical school at Florida State.



Marshall Kapp

FIREARMS, PHYSICIANS AND OLDER PATIENTS

A lot of attention has been devoted in recent years to the safety of children who live in homes with guns. The role of physicians regarding child safety at home (and elsewhere) has received substantial, and sometimes controversial, scrutiny.

However, the presence of firearms in the home may create lethal dangers to older people as well. Research has documented that many older people, including some with significant cognitive or emotional impairments, have easy access to unlocked firearms and ammunition and are relatively more at risk than children for suffering either accidental or intentional gunshot wounds. Effective physician engagement in this geriatric context is not only proper but arguably imperative.

Under the ethical principles of beneficence (doing good for others) and nonmaleficence (preventing harm), which help to define the trust nature of the physician/patient relationship, physicians owe a responsibility to their older patients to assess both whether firearms are present and accessible in the home environment and the effect of a patient's physical and mental status on the risk of injury by those firearms. The physician's ethical responsibility dovetails with a legal right to engage in firearms-related inquiries. Neither federal law (including the Second Amendment of the U.S. Constitution's

provisions on the right to bear arms) nor state statute or regulation forbids such questioning, and the physician's freedom of speech under the First Amendment affirmatively protects the right to inquire.

Further, the physician's right to ask about firearms in the home of an elder might reasonably be construed as a positive, legally enforceable duty. It will eventually become broadly recognized – by medical expert witnesses and juries deciding malpractice lawsuits and by medical specialty organizations that develop and publish relevant clinical practice guidelines – that prudent physicians make firearms-related inquiries of their older patients or the patients' family members as part of routine practice. Once that recognition and that endorsement come about, a physician who neglects to ask about firearms availability in the home during the physician/patient encounter will be exposed to liability if injury occurs and can be causally linked to the physician's neglect in this respect. Put differently, routine physician inquiries about firearms in the home are likely to become a basic part of the medical-legal standard of care owed to older patients at risk.

Once the physician has assessed the firearms situation in the older person's home, as well as the risks posed in light of the patient's health and social environment, the physician may contribute proactively to patient safety by recommending various preventive measures, such as removing or unloading the firearms, using trigger locks, storing weapons in a locked cabinet separate from the ammunition, or ensuring that responsible supervision occurs when the firearms are available. In extreme cases, the physician may be legally obligated to report reasonably foreseeable dangers to Adult Protective Services under the authority and immunity of state elder abuse and neglect laws.

Physicians ought to be central actors in the context of firearms and older patients. They must appreciate that the law not only permits them to carry out this therapeutic and ethical function appropriately but actually supports and may indeed require physicians' valuable efforts to safeguard the well-being of older patients.

(Marshall Kapp, J.D., MPH, is director of Florida State University's Center for Innovative Collaboration in Medicine and Law.)

“The physician's right to ask about firearms in the home of an elder might reasonably be construed as a positive, legally enforceable duty.”

- Marshall Kapp

Florida State University College of Medicine Partners

As a community-based medical school, the FSU College of Medicine provides clinical training at regional medical school campuses around the state through affiliations with local physicians, ambulatory care facilities and hospitals. The medical school is proud to recognize its partner institutions and organizations.



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1 Daytona Beach Campus

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Flagler County Health Department
Florida Health Care Plans Inc.
Florida Hospital DeLand
Florida Hospital Flagler
Florida Hospital Memorial Medical Center
Halifax Health
Stewart-Marchman-Act Behavioral Healthcare
Surgery Center of Volusia County
Twin Lakes Surgical Center
Volusia County Health Department
Volusia County Medical Society

2 Fort Pierce Campus

Florida Community Health Center Inc.
Florida Department of Health – Children's Medical Services
Grove Place Surgery Center
HealthSouth Treasure Coast Rehabilitation Hospital
Indian River Medical Center
Indian River Medical Society
Lawnwood Regional Medical Center
Martin Health System
Martin County Medical Society
Port St. Lucie Hospital
Raulerson Hospital
Sebastian River Medical Center
St. Lucie Medical Center
St. Lucie Surgery Center
St. Lucie/Okeechobee Medical Society
Surgery Center of Okeechobee Inc.
Surgical Center of the Treasure Coast
The Surgery Center at Jensen Beach
Treasure Coast Center for Surgery
Treasure Coast Hospice

3 Orlando Campus

Alliance Surgical Center
Central Florida Regional Hospital
Community Health Centers Inc.
Downtown Surgery Center
Florida Hospital
HealthSouth – Physicians' Surgical Care Center
M.D. Anderson Cancer Center Orlando

Nemours Children's Clinic
Orange County Health Department
Orange County Medical Examiner's Office
Orange County Medical Society
Orlando Center for Outpatient Surgery
Orlando Health
Orlando VA Clinic
Seminole County Health Department
South Lake Hospital
St. Cloud Regional Medical Center

4 Pensacola Campus

Baptist Health Care
Covenant Hospice
Escambia County Health Department
Escambia County Medical Society
Haven of Our Lady of Peace
Lakeview Center Inc.
Naval Hospital Pensacola
Nemours Children's Clinic
North Okaloosa Medical Center
Sacred Heart Health System
Santa Rosa County Health Department
Santa Rosa Medical Center
VA Gulf Coast Health Care System
West Florida Hospital

5 Sarasota Campus

Aesculapian Surgery Center
Bay Pines VA Healthcare System
Cape Surgery Center
DeSoto Memorial Hospital (Arcadia)
Doctors Hospital of Sarasota
Doctors Same Day Surgery Center
GulfCoast Surgery Center Inc.
Lakewood Ranch Medical Center
Manatee Memorial Hospital
Sarasota County Health Department
Sarasota County Medical Society
Sarasota Memorial Health Care System
Venice Regional Medical Center

6 Tallahassee Campus

Apalachee Center Inc.
Archbold Medical Center (Thomasville, Ga.)
Big Bend Hospice
Bond Community Health Center Inc.

Capital Health Plan
Capital Medical Society
Capital Regional Medical Center
Centre Pointe Health & Rehabilitation
Doctors' Memorial Hospital (Perry)
Emerald Coast Behavioral
HealthSouth Rehabilitation Hospital
Jefferson County Health Department
Life Care Centers of America (Thomasville, Ga.)
Madison County Health Department
Memorial Hospital and Manor (Bainbridge, Ga.)
Neighborhood Health Services
Red Hills Surgical Center
Refuge House
RiverChase Care Center (Quincy)
Tallahassee Memorial HealthCare
Tallahassee Outpatient Surgery Center
Tallahassee Plastic Surgery Clinic
Tallahassee Single Day Surgery
Tallahassee VA Clinic
Thagard Student Health Center (FSU)
Westminster Oaks



Rural Medicine

Collier County Health Department (Immokalee)
Florida State Hospital (Chattahoochee)
Healthcare Network of Southwest Florida (Immokalee)
Jackson Hospital (Marianna)

FSU College of Medicine -Sponsored Residency Programs

Family Medicine Residency Program at Lee Memorial Health System (Fort Myers)
Internal Medicine Residency Program at Tallahassee Memorial Hospital (Tallahassee)
Obstetrics & Gynecology Residency Program at Sacred Heart Health System (Pensacola)
Pediatrics Residency Program at Sacred Heart Health System (Pensacola)
Procedural Dermatology Fellowship Program at Dermatology Associates (Tallahassee)

Family Medicine Residency Program Affiliations

Bayfront Medical Center (St. Petersburg)
Florida Hospital (Orlando)
The Florida State University College of Medicine Family Medicine Residency Program at Lee Memorial Health System (Fort Myers)
Halifax Health (Daytona Beach)
Mayo Clinic (Jacksonville)
Miller School of Medicine, University of Miami, Department of Family Medicine and Community Health (Miami)
Morton Plant Hospital (Clearwater)
Naval Hospital Pensacola
St. Vincent's Medical Center Inc. (Jacksonville)
Tallahassee Memorial HealthCare

Other Affiliates

Cleveland Clinic Florida (Weston)
Gadsden County Health Department (Quincy)
H. Lee Moffitt Cancer Center & Research Institute (Tampa)
Halifax Health General Surgery Residency



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The three-week-long Summer Clinical Practicum is a chance for students just finishing their first year of medical school to gain clinical experience. In the case of Louis Gerena, who completed his practicum in Fort Myers, there also appears to have been an opportunity to serve as a role model.

END NOTE



COLIN HACKLEY

FSUMED