

UC IRVINE

ANTEATERS ENTER THE WILD

BY JONATHAN WINSLOW
STAFF WRITER

It's that time of year once again, where the only thing higher than the swarm of graduation caps being flung in the air is the soaring sense of accomplishment coming from UC Irvine's newest graduates.

The Class of 2014 will celebrate during a special All-Graduate Commencement Ceremony at Angel Stadium on June 14 featuring keynote speaker President Barack Obama.

This year's class includes 9,538 students up for graduation. The most popular degree this year is by far the Bachelor's Degree in Social Sciences, which by itself makes up 1,991 of the graduation candidates.

The top three UC Irvine

schools with the most graduation candidates this year are, in order, the School of Social Sciences, School of Social Ecology and the Francisco J. Ayala School of Biological Sciences.

More than 40,000 people are expected to attend the all-graduate ceremony with the president. UCI is not offering tickets to that event to the general public, citing space limitations.

Aside from the special ceremony for the entire Class of 2014, each of the schools on campus will have their own ceremonies, including honors and awards for their students. The School of Law has already held its commencement and the School of Medicine will do so this Saturday. The rest will be held June 15-16.

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KENT TREPTOW, CONTRIBUTING PHOTOGRAPHER

Graduates of the UC Irvine School of Law Class of 2014 show their excitement as they prepare to receive their diplomas in the recent ceremony held in Aldrich Park on the university campus.

MEDICAL MATRIMONY

BY JONATHAN WINSLOW
STAFF WRITER

A journey that began years ago with two "I do's" and a pair of bright white physician's coats is making its next big leap with a matching set of M.D.s in a UC Irvine commencement this week.

UCI School of Medicine's first wedded couple will receive their M.D.s together at commencement.

Bryce Spitze and Brenda Campos-Spitz's coats may be well-worn and speckled with ink by now, but for the first married couple to go through UC Irvine's School of Medicine together, the future has never looked brighter.

Including elementary school, the couple has each conquered 22 years of education, with the ultimate goal of becoming family doctors.

"I want to be that first point of contact," Spitze said. "Family doctors have the reputation of being doers, they see a problem and they want to take care of it right away. That's kind of my personality, I like to make a plan and carry it out."

Spitze explained that a good family doc-

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BRUCE CHAMBERS, STAFF PHOTOGRAPHER

Bryce Spitze and Brenda Campos-Spitz are a married couple who have been working towards their M.D.s at UC Irvine School of Medicine for the past five years. They will both receive their degrees at commencement this week.

Reading between the bones

Carbon dating can help predict the future by fleshing out the past.

The accelerator mass spectrometer at UC Irvine, one of only a handful in the nation, can help predict the future by giving us a window into the past.

While Earth system sciences researcher John Southon might call the machine quaint compared to its international brethren, the hulking multimillion-dollar device in the basement of Crowl Hall is not to be taken lightly.

The W.M. Keck Carbon Cycle Accelerator Mass Spectrometry Laboratory - the lab surrounding the machine - is dedicated to the study of the carbon cycle and regularly works with radiocarbon, also known as



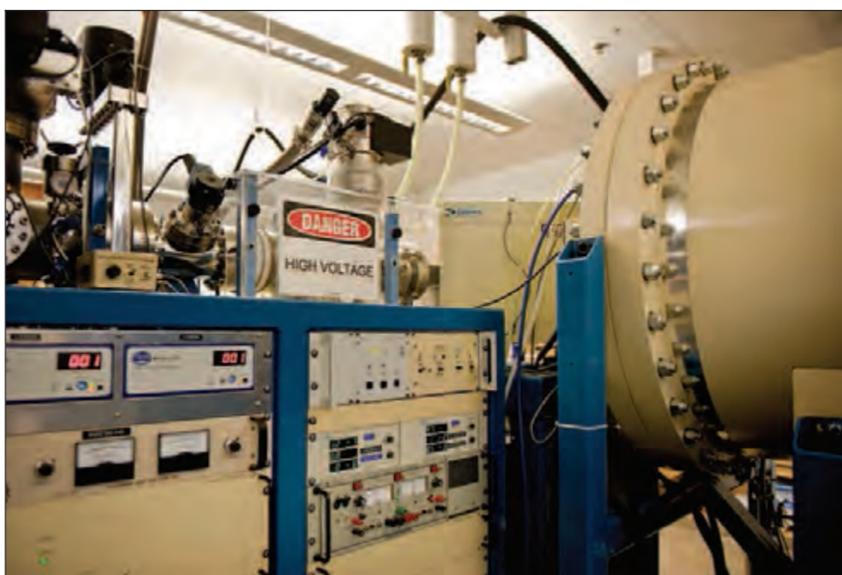
JONATHAN WINSLOW
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carbon-14, for carbon dating.

Carbon dating is a process that allows scientists to take a sample of organic material and trace it back to the year it was alive by taking a measure of the remaining radiocarbon.

Radiocarbon is made when cosmic rays generate neutrons that interact with nitrogen, creating the radioactive isotope carbon-14. Carbon-14 becomes CO₂, eventually spreading through the food chain, oceans and atmosphere. Radiocarbon is unstable, with a half-life of 5,730 years. This means that half of the radiocarbon in a given subject will de-

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ANNA REED, STAFF PHOTOGRAPHER

UC Irvine's accelerator mass spectrometer, shown here, is used for carbon dating.



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A presidential celebration

Barack Obama will give keynote speech at this year's UC Irvine commencement.

BY JONATHAN WINSLOW
STAFF WRITER

Fifty years after a visit by former President Lyndon B. Johnson to dedicate the land which would become UC Irvine, President Barack Obama will deliver the keynote speech at this year's special All-Graduates Commencement Ceremony.

The effort to have the president began in April with a letter from Chancellor Michael Drake that out-



FILE PHOTO: GETTY

President Barack Obama will deliver a speech at the UCI All-Graduates Commencement Ceremony on June 14.

lined all the accomplishments of the relatively young university.

Around 10,000 postcards, a 2,282-mile house call and a challenge to

throw down in basketball later, the president agreed to deliver the speech.

It was June 1964 when Johnson landed in Irvine to visit what was at the time



FILE PHOTO: STAFF

This will be Michael Drake's last UCI ceremony.

an empty stretch of land. Johnson's visit to this desolate plot marked the beginning of one of the nation's leading universities.

At the time, Johnson

spoke of casting aside the chains of ignorance and the prisons of poverty. Obama's visit celebrates the accomplishments of this year's diverse class, where nearly 50 percent of graduates are the first in their family to graduate college.

Drake will also speak and introduce the president during the ceremony. This will be Drake's final commencement as UC Irvine's chancellor, closing out his ninth year heading the campus. He is leaving to serve as president of Ohio State University.

During his tenure at UC Irvine, Drake oversaw a 90 percent increase in admission applications and a 19 percent increase in the graduation rate. He also

oversaw more than 30 major construction projects on campus, including UC Irvine Douglas Hospital.

"We are thrilled that the president has accepted our invitation to deliver the keynote address at our commencement exercises this June," Drake said in March. "We will be commemorating the 50th anniversary of the groundbreaking and dedication ceremonies of our campus. We are proud of the progress we have made during our first half century, and are looking forward to even greater achievements in the years to come."

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COUPLE

FROM PAGE 1

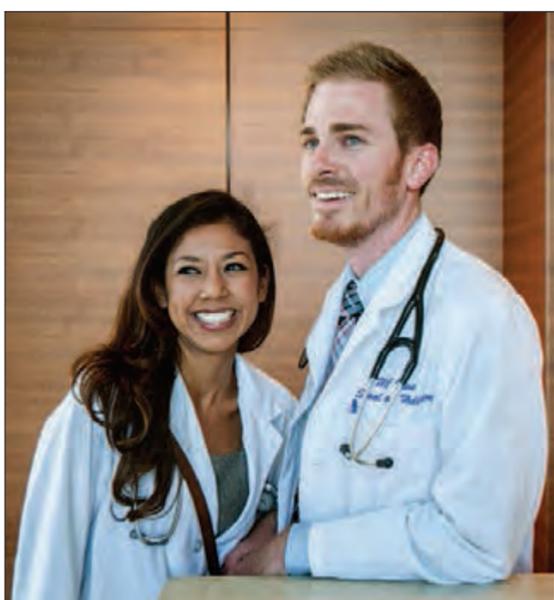
tor can take care of 95 percent of anybody's health care needs.

UC Irvine, while certainly an important place for the couple, is only the latest of many stops on their journey. Even before meeting each other, the duo had spent time in so many countries that they had to count them on both hands. Their story together began at UC Davis in September 2004, when they both volunteered to be resident advisers in the dorms. Spitze had just returned from a one-month stay in Peru, and Campos-Spitz had spent the same month in Morocco, giving the two plenty to talk about. They connected right away.

Spitze, 28, and Campos-Spitz, 30, both hail from small towns in California. Spitze is from Twain Harte, a small mountain town north of Yosemite with a population of 2,500, named for authors Mark Twain and Bret Harte. Campos-Spitz is from Rosamond, a desert town near Edwards Air Force Base, where her elementary, middle and high schools were all on the same street.

Though they've spent the years since their marriage following the same path, this duo of soon-to-be doctors started with such different directions that it's a small miracle that they met in the first place. The two were different ages, had different majors and wouldn't have even been at the same school had Spitze's coin flip between going to UC Davis or UC Berkeley for his undergrad landed differently. Had that coin flipped just once more in the air, the happily married couple would have never met.

When they met, Campos-Spitz was already in premed as a biological sciences major, Spitze was a Spanish and international relations major, far from being a doctor. Spitze's father is a doctor and his mother is a lawyer, so he had a great deal of pressure as a child to pursue one of those professions. In a home video from



BRUCE CHAMBERS, STAFF PHOTOGRAPHER

Both Brenda Campos-Spitz and Bryce Spitze want to be family doctors to help underserved communities.

when he was 3 years old, Spitze insisted he wanted to be a gorilla when he grew up, an interesting choice of profession since he was terrified of gorillas at the time.

Campos-Spitz, on the other hand, had always known that she wanted to be a doctor. After meeting her, Spitze was reminded of his love for sciences, which he had only drifted away from initially for the sake of having a new experience. The couple share a passion for helping underserved communities.

In meeting his future wife, Spitze was led to recall a path he hadn't considered since he was a child: medicine.

The two were married after graduating from UC Davis, and then they set off on a shared quest to become doctors.

They went to Pennsylvania, where Spitze spent a year making up for his lack of science courses in a post-baccalaureate program while Campos-Spitz worked as a medical assistant at an inner-city clinic. After that, they journeyed to Irvine, where they've been for the past five years, excluding a one-year jaunt to John Hopkins University in Maryland to earn supplemental master degrees in public health.

Choosing UCI was an easy choice for the couple thanks to the Prime-LC

program, a medical education program specifically developed for students who want to become leaders in underserved communities.

"We couldn't believe our eyes; it was as if this program was just created for us," Campos-Spitz said.

Interestingly enough, even though they are the School of Medicine's first married couple, the two never sat anywhere near each other in class.

"It turned out to be a great strategy, if we were to have a fight or something, nobody would ever know," said Campos-Spitz, with a laugh.

Campos-Spitz, the more studious of the two, often sat in the front of the class. Spitze, on the other hand, would sit as far back as possible, occasionally enjoying snippets of a tennis match on his laptop. Though they never sat very close to one another, the two watched each other back, figuratively, throughout all of their school years. Campos-Spitz would regularly give her husband lightning-paced reviews as they brushed their teeth on the morning of an exam, and Spitze would always be there to provide some much-needed balance when the stress of his wife's academic diligence became too much for her.

Book study only makes up the first two years of

medical school. The years after are all clinical rotations, meaning both have had a small taste of everything from surgery to psychiatry. During these years, medical students participate in a different aspect of medicine nearly every day. They might come in at 5 a.m. one morning and immediately set to work seeing patients in the clinic. On another day, they might be pulled into an active surgery in the afternoon and asked to identify everything they can see in the opened-up patient.

While they both got a heaping helping of experience during these years, the couple didn't see each other nearly as much as they did during class. Only once during all their time in these rotations did they have the same shift schedule, and those shifts were at completely different hospitals.

In what little downtime the couple is afforded, they enjoy hiking and taking their dogs, Mosley and Bogart, on walks.

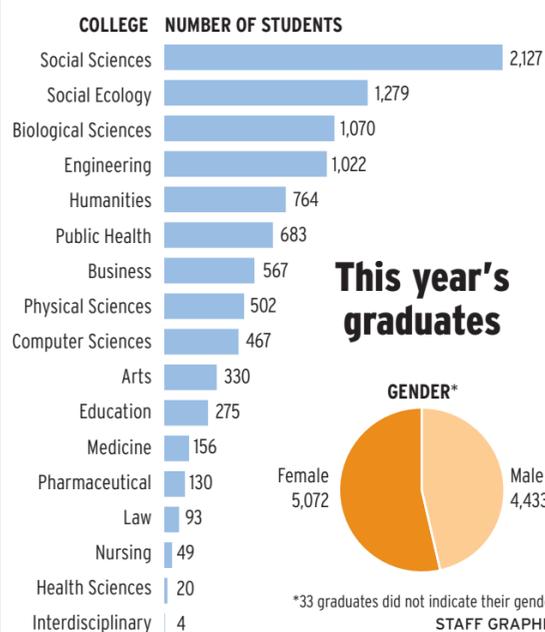
Even with their MDs barely under their belts, things aren't slowing down for this busy couple. They just recently signed a contract to purchase a house in Colorado, where they will be spending three years at a residency with the North Colorado Family Medicine Residency in Greeley.

Though they show no signs of stopping, both are somewhat dumbstruck by the fact that they're about to finally receive their degrees.

"The coordinator said to confirm the spelling of my name. She wrote it 'Bryce Spitze, M.D., M.P.H.' and I thought, 'Wow, that looks weird,'" Spitze said. "It's a bit surreal right now."

"I think it'll hit me when I get my badge. They make us wear these big things that identify you, so everyone knows when you walk in the room that you don't know that much," Campos-Spitz said. "When it says 'doctor,' that's going to be trippy."

The couple will officially receive their MDs on Saturday during the School of Medicine's Commencement ceremony.



CLASS OF '14 BY THE NUMBERS



KENT TREPTOW, CONTRIBUTING PHOTOGRAPHER

Graduate Desirae Hutchison beams as she receives her diploma from Dean Erwin Chemerinsky during commencement for UC Irvine's School of Law on May 10.

CARBON

FROM PAGE 1

cay every 5,730 years, giving us a solid tracer of the carbon cycle if we can measure how much radiocarbon is left in a subject compared to "regular" carbon.

By taking a sample of organic material that is up to 50,000 years old and running it through the accelerator mass spectrometer, Southon's team is able to measure the remaining radiocarbon in the sample, allowing them to attain a good idea of the year range of when it lived.

This is a very complex process that begins with chemically cleaning the sample. This removes any carbon that got into the



ANNA REED, STAFF PHOTOGRAPHER

Earth sciences researcher John Southon and his team at UCI carbon-date almost everything, from wines to counterfeit money.

sample when it was buried or otherwise lost to time. Next, the sample is converted to graphite, a crystalline form of carbon commonly used in pencils. Finally, the sample is run through the accelerator mass spectrometer, where it is converted into a beam of charged particles and bent using a magnet. When this

happens, the carbon-14 is separated from its smaller, less radioactive brethren, allowing scientists to accurately measure it on its own.

One of the great mysteries of carbon dating at the moment is the attempt to understand a spike in CO2 levels that occurred between the last glacial peri-

od and the time just prior to the industrial revolution. During this stretch, CO2 levels spiked from 200 parts per million to 280. For reference, the burning of fossil fuels since the industrial revolution has raised levels from 280 ppm to around 400.

"People have looked at CO2 trapped in bubbles in ice cores; they can go back through eight or 10 glacial cycles and see this pattern time after time," Southon said. "Something bumped atmospheric CO2 levels up by 80 ppm. Do you know what did that? Neither do I, and neither does anybody else! This is a big deal."

Southon explained that CO2 levels are closely related to climate, so if we have no way of explaining why this spike occurred, our

current models of climate prediction simply aren't up to snuff.

The UCI lab has seen a wealth of interesting projects, carbon dating everything from choice wines and counterfeit money to the world's oldest leather shoe.

More recently, a great deal of its efforts have been focused on samples from the La Brea Tar Pits. Southon says the tar pits present an excellent opportunity for testing climate models in a system that has already run its course. By looking at this closed system, now long-since enveloped in tar, we can run our proposed mathematical models for climate prediction through history and see if they hold water.

This is where carbon dat-

ing comes in to play. By dating animals and plants trapped in the tar, we can judge what the climate was like in a given year. If those animals and plants preferred a wet or dry, hot or cold climate, we can determine what the climate was like in their time. Once we have all of that data, we can compare it to what's happening now and learn things from history that allow us to take control of our future, possibly saving species that would otherwise go extinct.

"There are a whole bunch of species under ecological stress right now," Southon said. "Can we learn anything from what happened then that might help us preserve species? Besides which, it's a lot of fun," he said with a laugh.