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S.D. SLIPS **A SPOT** IN LIST OF **SCIENCE CLUSTERS**

Region ranked No. 4 in report on nation's life-science hubs

BY BRADLEY J. FIKES

San Diego County's lifescience cluster ranks fourth in the nation, down from third last year and second in 2013, according to an annual report that commercial real estate company JLL released Monday.

But the fall in rank is less important than it seems, said researchers with the Chicago-based company, which was formerly called Jones Lang LaSalle. Measurements of industry health indicate that San Diego's biotech and pharmaceutical sectors continue to thrive, the researchers

In the weighted scores that determine the rankings, the San Diego region rates fairly close to the San Francisco Bay Area, which occupies third place, and North Carolina's Raleigh-Durham area, which holds the No. 2 spot.

Top honors again go to the greater Boston area.

Cities across the country seek to cultivate and expand life-science hubs because they generate good jobs and the promise of improving human health.

San Diego companies such as Illumina, with a market value of nearly \$35 billion, illustrate the financial potential. In another example, Receptos, developer of a multiple-sclerosis drug, was sold last week for \$7.2 billion. And last year, local institutions obtained more than \$830 million in funding from the National Institutes of Health, or NIH.

As the industry grows, so does the need for real estate.

Nationwide, the top clusters are running short on laboratory space, the new report said. Rents rose 15 SEE SCIENCE • A5

\$1.5M FINE FOR TAKING WATER

California regulators seek record penalty against a senior rights holder for diverting 670 million gallons

BY MATT STEVENS & MONTE MORIN

Regulators proposed a record \$1.5 million fine Monday against a Northern California irrigation district after it allegedly diverted more than 670 million gallons of water illegally - a rare enforcement action that escalates the legal battle between Gov. Jerry Brown and the state's oldest water rights holders.

In issuing its draft complaint against the Byron-Bethany Irrigation District, the State Water Resources Control Board signaled a new willingness to confront the state's senior agricultural water suppliers, many of whom insist that their water rights from 1914 and before are beyond gov-

At a news briefing Monday, officials said it was "highly likely" complaints against other districts would be issued in the coming weeks.

"We're doing all the investigations we can and we'll bring about all the enforcement actions we can," said Andrew Tauriainen, a prosecutor with the board's Division of Water Rights.

Under California's arcane system of water allocation, priority goes to those entities whose rights

are the oldest, and special deference is given to those now more than a century old.

"The law dates back to a Wild West society, where the philosophy was, take it, it's yours," said Michael Hanemann, a professor of agricultural and resource economics at UC Berkeley. "There was a desire to keep the state government out of water allocation for as long as possible."

In the face of the severe drought SEE WATER • A7



UC San Diego Medical Center's pulmonary unit is among a dozen specialties ranked among the top 50 nationally, according to U.S. News & World Report. Last year, UC San Diego earned 11 rankings. John Gastaldo • U-T

UCSD HIGHEST-RATED HOSPITAL IN COUNTY

12 specialties recognized by U.S. News; Scripps' La Jolla group has 8 national rankings

BY PAUL SISSON

UC San Diego's quality in a dozen hospital specialties ranks among the 50 best in the nation, according to the latest "Best Hospitals" evaluation by U.S. News & World Report.

Released today, the closely followed health care compendium also bestows eight national rankings to the combined programs of Scripps Memorial Hospital La Jolla and Scripps Green Hospital.

While health-quality experts are quick to note that such rankings should not be consumers' only factor in deciding where to receive care, the results do bring a certain cachet that can help influence doctor referral patterns and make it easier for top performers to recruit talent.

Getting a national ranking in U.S. News is the best kind of validation, said Stewart Gandolf, chief executive of Healthcare Success Strategies, an Irvine-based health care marketing consultancy.

SEE HOSPITALS • A6

U.S. News & **World Report**

Three local hospitals received national rankings in the publication's Best Hospitals 2015-16 report:

UC SAN DIEGO MEDICAL CENTER

rankings for cancer; cardiology; diabetes and endocrinology; ear, nose and throat; gastroenterology; geriatrics; gynecology; nephrology; neurology and neurosurgery; orthopedics; pulmonology; and urology.

SCRIPPS LA JOLLA HOSPITALS AND CLINICS



rankings, for cardiology; diabetes and endocrinology; ear, nose and throat; gastroenterology; geriatrics; gynecology; orthopedics; and pulmonology.

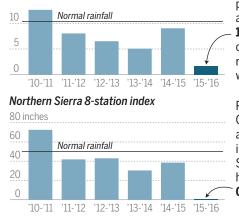
SCRIPPS MERCY HOSPITAL

ranking, for diabetes and endocrinology.

Annual rainfall totals

Lindbergh Field

15 inches



Unusual rain so far this month puts San Diego at 16.4 percent -1.7 inches of what it would receive in a normal water year.

> Part of Northern California, which is a major source of imported water for San Diego County, has gotten only 0.6 inches.

Note: Totals as of Sunday. The water year runs from July 1 through June 30.



Rancho Santa Fe resident Dr. Munish Batra has sought ways to give back. BILL WECHTER

MAKING A DIFFERENCE

Plastic surgeon uses his talents for medical missions, free operations



KRAGEN

Dr. Munish Batra may be a nationally known plastic surgeon, but the Rancho Santa Fe resident grew up in a poor Indian village and spent his teen years working the

blast furnace at an Ohio steel mill. Making what he calls that

"one-in-a-million" rags-to-riches leap has been rewarding, but also deeply humbling. To pay it forward, Batra, 49, gives a great deal of his time, surgical expertise and money each year to help the desperate and disfigured. He's co-founder of a local nonprofit that provides free cosmetic surgery to uninsured Americans with severe deformities. He's also made annual medical

SEE **DIFFERENCE • A5**

The many uses and medicinal properties of ginger. Food

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SCIENCE • Nationwide, top clusters are running short on laboratory space

percent during the past year in San Diego, and by nearly 17 percent in Boston. Almost 100 percent of lab space in the sixth-ranked Los Angeles-Orange County area is occupied, according to the analysis.

In San Diego, hundreds of thousands of square feet of office space are being turned into lab quarters to meet demand, said Grant Schoneman, a vice president with JLL's San Diego office. The conversion is difficult because special fixtures and equipment need to be installed.

While Boston remains the nation's clear leader in life sciences, its lead dropped from 14.5 points in 2014 to 6.1 points this year. The weighted scores are a composite of individual measurements in categories such as each region's percentage of life-science employment, growth in life-science employment and life-science funding from the NIH.

Boston received a score of 72.5, Raleigh-Durham got 66.4, the San Francisco Bay Area followed with 64.3 and San Diego received 63.1.

Local strengths

San Diego is particularly prominent in genomics, Schoneman said. Companies such as Illumina and the Carlsbad-based unit of Thermo Fisher Scientific dominate the field. Thermo Fisher bought Carlsbadbased Life Technologies last year for \$13.6 billion, acquiring its genomic expertise.

Newer local companies such as Human Longevity of



Biotech company Thermo Fisher bought Carlsbad-based Life Technologies last year for \$13.6 billion, acquiring its genomic expertise. U-T FILE

La Jolla, founded by genomics pioneer J. Craig Venter, are plumbing the genome and other biological information to extend the human life span and raise the quality of life.

"That's where San Diego's definitely in the forefront and I think will be for years to come, based on the personnel and the scientific infrastructure here in town," Schoneman said.

The region is also favored as a research center for pharmaceutical companies, he added. Those businesses seek out the depth of talent in the local workforce, he explained.

Academic institutions are interested in San Diego as

After making a failed attempt last year to partner

with or buy The Scripps Research Institute in La Jolla, the University of Southern California recently opened an Alzheimer's research center in San Diego. It hired top Alzheimer's researcher Dr. Paul Aisen from UC San Diego, prompting a lawsuit that's ongoing.

USC is attracted to San Diego's life-science community because of its effectiveness in translating research discoveries into companies, USC Provost Michael Quick said in an interview last week. Biotech companies formed in the Los Angeles area tend to move to San Diego or the Bay Area, he said, so USC wants to learn in San Diego how to provide an environment that keeps biotech

Point of contention

The San Diego region has long ranked among the nation's top sites for biotechnology, but determining order of precedence can be contentious. For example, deciding a cluster's geographic size is a judgment

Prominent biotech journalist Luke Timmerman blasted San Diego's second-place ranking in 2013 as "bogus." Among other reasons, he said one of the factors used in the ranking, the percentage of life-science companies compared to all companies in a region, was misleading. It would be better to measure the absolute number of these com-

That subjectivity makes it difficult to assess chang-

Top life-science clusters in U.S.

Rank	Region	2015 score	2014 score
1.	Greater Boston area	72.5	86.9
2.	Raleigh-Durham	66.4	58.3
3.	San Francisco Bay Area	64.3	72.4
4.	San Diego	63.1	70.7
5.	Greater New York City area	60.3	55.4
6.	Los Angeles-Orange County	58.3	51.5
7.	Greater Philadelphia area	50.3	50.2
8.	Long Island	48.2	not in top 10
9.	Minneapolis-St. Paul	43.5	44
10.	Seattle	40.8	40.4
SOURCE: JLL			

es in the rankings, and to compare reports from different organizations, said Joe Panetta, president and CEO of the San Diego-based life-science trade group Bio-

"While I'm surprised that Raleigh-Durham jumped to the #2 spot, ahead of both San Diego and the Bay Area, it's difficult to provide comment beyond that," Panetta said by email.

"What we've learned over the years is that every report uses different metrics, and all of them are hard to qualify," he added. "For example, this report provides actual values for only some of the categories used to calculate the overall cluster rankings, so it's tough to determine whether the numbers used in the calculation, and therefore the overall cluster rankings themselves, are cor-

The results show that California remains the top

state for life science, said Sara Radcliffe, president and CEO of the California Life Sciences Association, a trade group with offices in San Diego.

"California continues to lead in life-sciences research, investment and innovation, generating jobs and economic growth for our state and new medicines for people around the world," Radcliffe said.

"The new Jones Lang LaSalle life-sciences ratings report shows three California regions ranking among the nation's top 10 life sciences clusters. With the Bay Area, San Diego and Los Angeles at the forefront, the advancements made in the Golden State will have a lasting and positive impact on human health and society for decades to come."

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DIFFERENCE • Doctor still feels tied to his humble roots

FROM A1

missions to India since 2004, and he just returned from a 10-day trip to Nepal where he did hundreds of face and neck surgeries on earthquake victims.

"I do this because I grew up in those sorts of neighborhoods. Perhaps it's guilt that I was able to get out and they didn't, but I have a deep empathy for their suffering," he said.

Batra was 8 years old when his family moved in 1972 to Cleveland from their native Kanpur, India. His father, a metallurgist, had come to Ohio a year earlier for a steel mill job and Batra assumed he would also be a steelworker. But a guidance counselor at his inner-city high school saw a way out for Batra and convinced his proud parents that with such high SAT scores, he should go to college.

At Ohio State University, he struggled to keep up academically and his dream of studying creative writing was derailed by his parents' desire that he become a doctor or engineer. He chose medicine and studied plastic surgery at Case Western Reserve University. He first arrived in San Diego in 1996 for a two-year surgical residency, then spent a year studying craniofacial surgery in Utah before returning in 1999 to launch his private practice. He served as a trauma surgeon at Scripps Memorial Hospital, co-owns Coastal Plastic Surgeons in Carmel Valley and has served for six years as medical director for Skin Authority, a skin rejuvenation clinic and product-maker.

Once his practice was established, Batra said he began looking for ways to give back. That opportunity arrived in 2001, when Camp Pendleton Marine Ian Grado, 21, arrived in the emergency room at Scripps Memorial with severe facial injuries from a car crash. Batra did an emergency repair, then Grado was sent for follow-up to a VA hospital in his native New Mexico. But doctors there lacked the craniofacial expertise to attempt the surgery, so Batra and La Jolla plastic surgeon Michael Halls decided to do the surgery for free. Grado was the first of nearly 40 patients who've been helped since

then by their nonprofit **Doctors Offering Chari-**

table Services, or DOCS.

"We wanted to help people who needed that sort of highly specialized treatment and who had been turned away by other surgeons and had no hope left," Batra said.

DOCS patients have included burn victims, a woman with a gunshot wound to the face, a man whose left arm was torn off in a car accident and a woman whose skull was completely rebuilt. But the most high-profile case was Ana Rodarte, a Sun City single mom whose face was extremely disfigured by neurofibramatosis. Batra and Halls conducted seven surgeries over four years to give Rodarte a normal appearance. Her transformation was chronicled on "The Oprah Winfrey Show," in People magazine and the Los Angeles Times.

"Before the surgeries, Ana hid out in her apartment and had no life," Batra said. "This allowed her to have a life again."

When a devastating tsunami hit Southeast Asia in 2004, Batra felt a calling to return to his native country. Every year since he's gone there on medical missions, where his patients include young Indian women horrifically burned with battery acid by jilted lovers or in-laws angry at young brides who don't

pay a dowry.

firms around.

Five years ago, he joined the American Society of Indian Plastic Surgeons, a team of six to 10 surgeons who make charity trips to different Southeast Asian countries each year. One of its co-founders, New Jersey hand surgeon Bhupesh Vasisht, said Batra was high on the list of surgeons he wanted to recruit.

'He's an amazıng, amazing surgeon, San Diego is very lucky to have him," Vasisht said. "We also were interested in him because he had so much experience in the charitable field and in doing medical missions to India."

Batra said the trips are rewarding but grueling. He typically operates for up to 18 hours a day, eight to 10 days straight, on a

total of 150 to 200 patients. Last month, he spent 10 days in Nepal where his patients included a woman whose upper eyelids were burned off when a gas pipe exploded in her face and another burn victim whose chin was fused to her chest by scar tissue.

"We may be working in exotic places, but it's not glamorous work," said Vasisht, who said he looks up to Batra like a big brother. "It's painstaking work and we see some really devastating injuries but basically we're in the operating room from morning until night until one of us drops."

Next year, Batra said he's planning a three-week trip to India and Nepal. He will pay his own travel and living expenses but he and other members of the American Society of Indian Plastic Surgeons rely on donations for medical supplies and equipment. Batra said he's grateful to his San Diego patients for supporting these medical missions. Local residents have underwritten the cost of a fishing boat for a struggling village, the construction of an orphanage for disabled children in Nepal and tents to house the homeless during monsoon season.

Having fulfilled his parents' wishes, Batra said he's now working on achieving his own dreams. Five years ago he married, and with his wife, Pooja, he has two sons he's "madly in love with," Aynan, 21/2, and Cairay, 9 months.

He has also returned to

his first love of writing. He recently sold a screenplay to the producer of the film "Equalizer" about the public's lack of empathy for the suffering of animals. He's in talks with a publisher for his debut novel "The Human Canoe," based on his experiences with less-than-empathetic medical workers as a young medical student and trauma surgeon.

"Empathy is something that really drives me," Batra said. "I've had opportunities that many Indians did not have. I know how lucky I am and for that reason, I see it as my responsibility to make other people's lives better."

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