

TABLE TENNIS TAKES OFF IN BAY AREA

HITTING IT OUT OF THE GARAGE

Pingpong champions are bred in hothouse of Milpitas, Fremont, San Jose



NHAT V. MEYER/STAFF PHOTOS

Aarsh Shah, 16, serves at the India Community Center Table Tennis Center in Milpitas.

**By Mark Emmons**  
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MILPITAS — For most Americans, pingpong is the fun game played in a basement or garage, often accompanied by frosty beverages. Well, at least until some sore loser breaks the eggshell white ball.

But in a southern corner of the Bay Area, pingpong has become serious sport. In the past decade, a cluster of competitive clubs has opened to launch a pingpong revolution. That's why, as the country's best paddlers are competing in Texas through Sunday at the 2015 U.S. World and Pan-Am Team Trials, 18 players, or one-third of the field, either live or train in Milpitas, San Jose or Fremont.

"The Bay Area is one of the great table tennis ecosystems in the U.S.," said Gordon Kaye,

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Aarsh Shah, left, plays against coach Wang Jinxin at the India Community Center Table Tennis Center in Milpitas.

**TABLE TENNIS**  
**History:** Originated in the 19th century in England as an after-dinner parlor game among the aristocracy.

**Serious sport:** China dominates international table tennis, an Olympic event since 1988. Other top table tennis countries include Taiwan, Germany, Austria, Sweden and South Korea.

ENVIRONMENT

China pollution inspires Stanford team's air filter

**By James Urton**  
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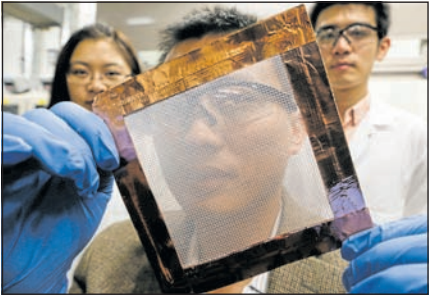
STANFORD — In 1999, then-Chinese Premier Zhu Rongji said that Beijing's pall of smog "would shorten my life at least five years," a hazard level scientists affirmed two years ago with a study of China's air pollution. That reality did not sit well

with Stanford University researcher Yi Cui, who makes frequent trips to China.

"The air pollution there is terrible," Cui said. "I decided we needed to do something about it."

He didn't realize it at the time,

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KARL MONDON/STAFF

Stanford researcher Yi Cui, center, and graduate students Chong Liu, left, and Po-Chun Hsu, show the filter.

REVISED CALIFORNIA FIGURES

Gusher of jobs marked 2014

Experts anticipate Bay Area report next week to be equally impressive

**By George Avalos**  
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California's employment picture was far more robust during 2014 than initially estimated, according to a report released Friday, a surge of strength that bodes well for next week's release of updated figures for the Bay Area job market.

California also posted strong job gains during January, the state Employment Development Department reported, adding 67,300 jobs. That helped drive the statewide unemployment rate down to 6.9 percent in January compared with 7.1 percent in December. The last time California's jobless rate was below 7 percent was in May 2008, when the mark was 6.6 percent.

"This was a blowout report," said Steve Levy, director of the Palo Alto-based Center for Continuing

**6.9%** California's unemployment rate in January

**Business:** For a report on national jobs numbers see **B7**

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TECH ON WALL STREET



RICHARD DREW/ASSOCIATED PRESS

A trader works at the post that handles AT&T on the floor of the New York Stock Exchange.

Apple nudges aside AT&T for a spot on Dow Jones index

**By Patrick May and Jeremy Owens**  
Staff writers

Already the most highly valued company on the planet, not to mention one of the most culturally cool and technologically sexy, Apple now has another claim to corporate fame: It will soon join the Dow Jones industrial average, the iconic if somewhat dated measure of America's economic prowess.

In the first reshuffling among the Dow's 30 companies since 2013, Apple will soon take the place of AT&T, which was removed because the 119-year-old blue chip index was too telecom-heavy.

"This is reflective of the times," analyst Van

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Mostly sunny  
H: 63-76  
L: 39-48

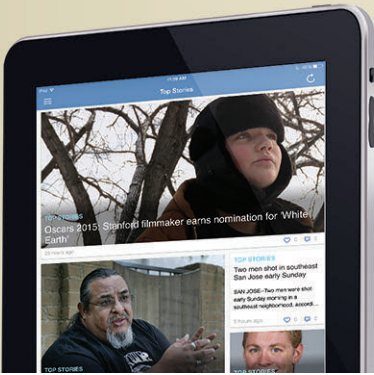
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The Mercury News



# Pingpong

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CEO of USA Table Tennis. “It has become this amazing incubator of both elite and regular players. It’s reached a critical mass there, and demographics play a big role.”

The region’s growing embrace of a sport requiring cat-quick reflexes and chess-like strategy not only is broadening what it means to be an athlete, it highlights the diverse nature of our melting pot community.

According to the U.S. Census Bureau, 37 percent of Santa Clara County residents and 31 percent of people living in Alameda County are foreign-born. So it shouldn’t be surprising that the gusher of top local players primarily are first-generation Americans who have adopted a sport their parents brought with them from countries like ping-pong-mad China.

On any given Saturday, 200 kids cycle through the 22 tables at the India Community Center in Milpitas.

“The parents largely are from China and India, and they’re high-tech folks like software engineers,” said Rajul Sheth, the center’s director. “The kids were born here, but their parents encouraged them to play a sport from their home country. They don’t want them playing football.”

It’s impossible to say just how many people are playing in Silicon Valley. But about a dozen Bay Area clubs are registered with USA Table Tennis. So many new players are being drawn by the game’s distinctive clack-clack sound that Sheth’s club is moving to a new facility in April that will double their space.

“There wasn’t really very much table tennis when I first arrived,” added Stefan Feth, a former German national team player who relocated to the Bay Area in 2006 and runs the World Champion Table Tennis Academy of San



NHAT V. MEYER/STAFF

Jiaqi Zheng returns the ball at India Community Center in Milpitas. Eighteen athletes who train in the South Bay are competing in Texas this weekend to represent the U.S. in the upcoming World Championships.

Jose. “Now, it’s becoming mainstream. And the South Bay is very, very hot.”

For the record, if you say “pingpong” to a serious aficionado, they may wince. Sheth even looked like he was poked with a sharp stick.

“When you’re playing in the garage, pingpong is a good word,” said Sheth, who competed in his native India. “But when you come to a club like this, it’s table tennis. This is a sport.”

Kaye doesn’t care what you call it, as long as you’re playing. He cites a Sporting Goods Manufacturers Association survey that indicated about 17 million Americans are casual players. He wants more people to pick up a paddle.

“I challenge you to find someone who has ever had a bad experience with pingpong,” Kaye said. “When was the last time you ever

heard of somebody suffering a concussion?”

But you can get a headache trying to following the blur that is the ball when top players are relentlessly batting it back and forth over the 9-foot-long table. Anyone who thinks pingpong players are not “real” athletes needs to spend a little time at the ICC.

“I don’t even know if I’m watching the ball because it all happens so insanely fast,” said Aarsh Shah, 16, of Fremont. “After awhile, spatial recognition just takes over. It’s all instinct. I’m not even thinking about what I’m doing.”

Shah said young South Bay players like him took up the game because they liked it. But they also had role models to show them just how far pingpong could take them: Ariel Hsing and Lily Zhang.

“We all saw their success

## 2015 U.S. WORLD AND PAN-AM TEAM TRIALS

Eighteen athletes who live or train in the South Bay are competing in Fort Worth, Texas, this weekend to represent the country at the upcoming World Championships and Pan-Am Games. Four women and three men will qualify for the world event in China in late April and early May. Three men and three women will earn berths at the Pan-Am Games, which will be held in Toronto in mid-July.

### Local athletes competing

India Community Center of Milpitas: Krish Avvari, Nikhil Kumar, Aarsh Shah, Aashay Patel, Timothy Wang, Ishana Deb, Lily Zhang, Jiaqi Zheng.

World Champion Table Tennis Academy of San Jose: Kunal Chodri, Kanak Jha, Isabel Chu, Angela Guan, Prachi Jha.

Silicon Valley Table Tennis Center of Milpitas: Victor Liu, Siliang Wang, Luvena Huo

Fremont Table Tennis Academy: Shashin Shodhan

Zhou Xin Table Tennis Academy of Fremont: Diane Jiang.

and wanted to be like them,” he said. “We’re following in their footsteps.”

Bay Area natives Hsing and Zhang, along with Texan Timothy Wang, trained at the ICC en route to making the 2012 U.S.

Olympic team, although none came home with a medal. Hsing, 19, a Valley Christian High graduate, currently is taking a break from competition. (Princeton, where she’s currently a sophomore, tops pingpong.)

# Filter

Continued from Page 1

but a solution was in his gloved hands every day at his Palo Alto laboratory, where his team works on touch-screen and battery technologies.

Cui challenged his team at Stanford to come up with an approach that could make a dent in Beijing’s lifespan-shaving smog. His researchers discovered that a mesh made from polyacrylonitrile, a chemical used to produce surgical gloves, had a remarkable appetite for air pollutants. They developed a thin filter that gobbled up even the smallest pollutants, and it could absorb many times its own weight in sooty particles.

“The chemical composition of the fiber here is the key,” said fellow Stanford professor Lynn Hildemann, who was not affiliated with Cui’s research. Other scientists have shown that small fibers are better at trapping air pollutants, but not using this material.

Now, Cui and his team hope their innovative approach can help clear the air by the lungful for people living in high pollution zones in Beijing and beyond.

Even moderate levels of air pollution contribute

to respiratory and cardiac ailments. In 2013, the International Agency for Research on Cancer classified outdoor air pollution as a cancer-causing agent. The most hazardous parts of air pollution are “fine particles,” airborne chemicals and compounds smaller than 2.5 microns (about 1,000 times smaller than the smallest grains of sand). People in high pollution zones inhale fine particles deep into their lungs, where they can become lodged or even enter the bloodstream.

The World Health Organization’s Global Burdens of Disease project estimated that air pollution contributed to 3.2 million deaths worldwide in 2010, including more than 200,000 deaths from lung cancer.

From 2010 to 2012, the American Lung Association reported that more than 46 million people in the United States live in counties with unhealthy levels of particulate air pollution. The five worst metropolitan areas were Fresno, Visalia, Los Angeles, Bakersfield and Modesto.

Cui’s team used a technique called electrospinning to create filters made from different industrial polymers, explained Stanford graduate students Chong Liu and Po-Chun Hsu. Electrospinning uses an electric



Tourists wearing masks visit the Forbidden City in Beijing. A Stanford University team has devised an air filter that screens 99 percent of pollutant particles.

CHINAFOTOPRESS/GETTY IMAGES

field to pull a thick liquid polymer into thin threads just one-thousandth the width of a human hair and deposit them on a surface to dry.

Liu, Hsu and their colleagues tested how well different meshes, each made from a unique type of polymer, filtered particles in the air. Each polymer has its own chemical properties, which will affect how it will interact with pollution particles, Liu said. “How ‘sticky’ the surface is determines” whether a particular mesh will hold on to these pollutants, she added.

They exposed each mesh to simulated air pollution from an unlikely source: burning incense.

The incense smoke had air particles of a similar

size to the air pollution that plagues cities in northern China, including the fine particles that are the greatest threat to human health. The polyacrylonitrile mesh grabbed and held onto more than 99 percent of all the air particulates, including over 98 percent of fine particles. The filter could collect up to 10 times its own weight.

“That actually surprised me,” Cui said. “This filter is so efficient and takes in so many particles.”

Cui’s team didn’t need to force air through the filter. The fibers in the mesh were so thin that air could flow through it, and the polymer could seize pollutants as they passed. One member of Cui’s team even took a polyacrylonitrile filter to China

in July. He discovered that the filter removed 99 percent of pollutant particles from the air that passed through it on a hazardous air quality day.

The filters they made also were at least 70 percent transparent, which the scientists hope will make polyacrylonitrile filters an attractive option for window screens in homes and apartments.

“The sunlight can still come in,” Cui said.

Current window filters lack this transparency and block out sunlight, said Al Veck, executive director of the National Air Filtration Association.

“It utilizes the best of both worlds,” he said. “It’s using outdoor air and filtering it in a more natural set-

ting.”

The filter’s thinness and transparency also could make it easy to incorporate into other devices to filter out pollutants.

“It might improve airflow in personal masks,” Liu said.

Other researchers in Singapore, China and the United States also are trying to use electrospinning to filter pollutants and even pathogens from air and water. Nanofibers currently are used in some commercial air and water filters, but in conjunction with other filtering technologies, Veck said. In principle, Cui’s approach to air filtration also could gobble up air pollutants closer to their emission sources, including cars, power plants and industrial centers. However, those filters must be durable enough to withstand high temperatures and harsh chemicals. Cui plans to continue working on new air filters for industrial, commercial or residential settings.

There is certainly an urgent need for solutions, said Liu, who frequently visits her native China.

“We all see this heavy haze when we go,” she said. “It’s really serious now.”

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# Jobs

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Study of the California Economy. “It could push the Bay Area past its all-time peak for total jobs pretty soon.”

The report on California jobs came on the same day as the latest update for the national employment picture. The jobless rate in the U.S. dropped to a seven-year low of 5.5 percent, and employers added a solid 295,000 jobs in February, the 12th straight monthly gain above 200,000, the government said. It’s the longest such stretch since 1994-95.

However, the government noted that the U.S. jobless rate fell mainly because many people gave up

looking for work and were no longer officially counted among the unemployed. That suggests the job market, while improving rapidly, isn’t quite as healthy as it looks.

Statewide, employers added 320,300 jobs in 2014, 216,800 more than first calculated, the state EDD reported.

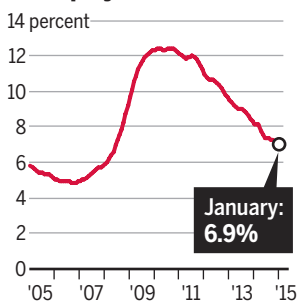
“These are massive upward revisions in California,” said Jordan Levine, director of economic research with Beacon Economics. “This is very encouraging for the Bay Area.”

The new estimates for job growth in California are part of an annual revision by the state EDD of previously released employment figures. Friday’s update covered California and Los Angeles County. Next Tuesday, the EDD intends

## California job trends positive

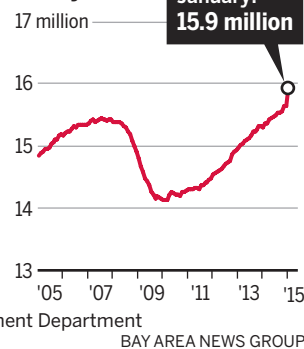
Both the jobless rate and the total number of payroll jobs in California have shown steady improvement since the worst period of the Great Recession.

### Unemployment rate



Source: State Employment Development Department

### Total jobs



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to release figures for the remainder of California’s metro areas, including the Bay Area.

The upward surge anticipated for the Bay Area should extend throughout

the region, economists predicted.

“We think the East Bay will see a significant improvement and large upward revision,” said Mark Vitner, an economist with

San Francisco-based Wells Fargo Bank. “Santa Clara County and San Francisco have been strong for a while, and we think both those areas will be looking stronger.”

What’s more, the new figures for last year are leading economists to be more optimistic about the jobs picture for this year.

“These robust numbers will probably prompt us to review our job forecasts for California for 2015,” said Scott Anderson, chief economist with San Francisco-based Bank of the West. “We had a forecast of 2.4 percent annual growth. We could see a year of 3 percent job growth for California.”

The upward revisions brought improvements to every industry in California, according to an analysis by Beacon Economics.

The private sectors with the largest improvements in job gains for 2014, compared with the original estimates for growth, were leisure and hospitality, up 58,000 jobs; vehicle repairs, personal services, laundry services and other miscellaneous services, up 31,400; health care, up 27,400; and manufacturing, up 17,400.

And in a result that bodes well for the high-tech sector in the Bay Area, professional, scientific and technical services added 16,300 more jobs than initially estimated.

“We believe 2015 will be another great year for the Bay Area,” Vitner said.

The Associated Press contributed to this story. Contact George Avalos at 408-859-5167. Follow him at Twitter.com/georgeavalos.