

Why the United States dominates the Nobels

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No fewer than eight of this year's 13 Nobel winners were American citizens, extending a historic trend tied to the strength of US academia and its ability to attract top world talent.

American universities consistently dominate "Global top 100" rankings, with a mix of private "Ivy Leagues" with lavish endowments and prestigious state colleges.

Since the first Nobels were awarded in 1901, the US has racked up 400

medals, followed by the United Kingdom with 138 and Germany with 111—these figures include people affiliated with multiple countries.

"I'm really appreciative of the opportunities that have been given to me in this country," Ardem Patapoutian, co-winner of the 2021 Nobel Medicine prize for his work on the nerve receptors related to touch, said of the United States at a press conference after his win.

The Armenian-American, who grew up in Lebanon, credited his success to the public-funded University of California system, where he received his bachelors and did his post-doc, as well as the Scripps Research Institute where he has been based for two decades.

The University of California is also home to his co-winner David Julius, of UC San Francisco. In all, UC staff and faculty have won 70 Nobels—one shy of the total won by France, the fourth-leading country.

Basic research

This year's Physics Prize co-winner Syukuro Manabe, who left Japan in the 1950s and did his groundbreaking work on climate models at Princeton in New Jersey, told reporters that in America, he was able to go where his curiosity led him, which was key to his success.

Chemistry co-winner David MacMillan relocated to the United States from Scotland in the 1990s, and is also a professor at Princeton—where Filipino-American Peace Prize winner Maria Ressa earned her bachelors in 1986.

Monday's Economics Prize was shared by Canadian-American David Card, Israeli-American Joshua Angrist—both at Princeton—and Dutch-American Guido Imbens, who is at Stanford.

Funding for basic research, which is defined as study for the aim of improving scientific theories or understanding of subjects, is at the heart of America's wins, David Baltimore, co-winner of the 1975 Nobel Prize in medicine, told AFP.

This is a "trailing indicator" because, compared to applied research, the dividends can pay out years or decades later, often in unpredictable ways.

"It's also the strength of our research institutes and universities that goes back to the founding of Harvard so many centuries ago, and their continued support with no breaks," added Baltimore, now president emeritus and distinguished professor of biology at Caltech.

American emphasis on basic research traces back to the aftermath of World War II and the creation of the National Science Foundation in 1950, which continues to coordinate [federal funding](#) to universities today.

Philanthropy and private endowments also play an ever-growing role in financing.

While China is catching up to the US in terms of total research funding (\$496 billion versus \$569 billion adjusted for purchasing power parity in 2017), it has challenges linked to academic freedom and ability to attract top talent, said H.N. Cheng, president of the American Chemical Society.

Rewarding youth and migrants

Just as rich countries with strong sports infrastructure dominate international competitions like the Olympics, being the world's number one economy makes the United States a scientific powerhouse.

"A scientist for example will find more job opportunities not only in academia, but also industry, government labs and other opportunities," Cheng told AFP.

Marc Kastner, an emeritus professor of physics at MIT, added that US universities have a long history of rewarding bright young researchers with their own labs.

"In places like Europe and in Japan, there would be big groups led by a very senior professor and it wasn't until that person retired that a younger person stepped in, and by that time they don't necessarily have their best ideas anymore," he said.

For example, Harvard neurobiologist Catherine Dulac, who won the 2021 Breakthrough Prize for her work on parental instinct, decided against returning to France in her twenties for this very reason, as well as gender bias, she told AFP last year.

Looking ahead, some worry that falling immigration could challenge US pre-eminence.

"The US has built a phenomenal culture of welcoming," Stefano Bertuzzi, who migrated from Italy and is today CEO of the American Society for Microbiology, told AFP.

Lately, however, he and Kastner have been worried by rising trends of xenophobia and nationalism, which are making the United States less of a choice destination.

This is particularly true for Chinese students, who came under the scanner during the administration of former president Donald Trump over espionage concerns.

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