

What the 2025 Science Nobels Tell Us About University Research

Philip G. Altbach and Tessa DeLaquil

The 2025 Science Nobels point to the dominance of wealthy countries, in terms of both current Nobel winner affiliation and international careers, the rise of part- and full-time affiliations with tech companies and start-ups, and the persistent male overrepresentation in Nobel recognition. Also discussed are the issue of research funding and the strong probability of a different Nobel landscape in future years.

One thing is clear about Nobel prizes in 2025 and in general: they are the result of a long-term commitment to basic research—by universities, nations, and scientists themselves. The Nobels therefore serve as a useful representation of both the investment in and value placed upon basic science around the world.

Twelve Nobel prizes in the sciences (Physics, Chemistry, Physiology/Medicine, and Economics) were awarded in 2025. The results are consistent with recent years (see previous analyses: [2024](#), [2023](#), [2022](#), [2021](#)), but an analysis of this year's prizes also points to a number of newly important trends.

Global Science Continues to be International and Dominated by the Anglosphere

Much is said about the growing multipolar and international nature of science, but the 2025 Nobels reflect traditional patterns. While international in scope, they are dominated by the rich world with little indication of multipolarity—perhaps due to the lag in recognition of Nobel-winning research. All 10 of the academically affiliated prize winners work at top universities in the rich world: six in the United States, two in Japan, and one each in Australia and France. A few have joint affiliations, highlighting internationalization—in Israel, France, and the UK. This follows trends in Nobel prize discoveries, showing a rising proportion of winners at top-ranked institutions ([30 percent from a top 25-ranked university](#)). All of this year's prizes went to scientists with current or previous positions at US institutions (e.g., PhDs, postdocs, guest or permanent faculty). Seven of the 12 received their PhDs from American universities. Six are currently affiliated with US universities, one with a US nonprofit research institute, and one with a US biotech company. However, as is often the case, the majority of winners' career trajectories are international; all but the two who chose nonacademic careers have had postdocs, visiting professorships, or other experiences in several countries. Top science and research thus constitutes a global endeavor.

As is typical, Nobelists have mobile careers and work with colleagues from multiple institutions and countries—almost exclusively in the rich world, largely in North America and western Europe. As an example, Physics winner Michel Devoret was born in France and earned his PhD at the University of Paris, Orsay. As a postdoc at the University of California, Berkeley, he worked from 1984 to 1985 with his joint Nobel prizewinners, John Clarke and John M. Martinis, leading to this prize. His current affiliations are at Yale and the University of California, Santa Barbara. He has been affiliated with the Collège de France and is presently chief scientist at Google Quantum AI. This illustrates not only the significance of science Nobelists' international careers but also the essential nature of international research collaboration—both of which are increasingly restricted in contemporary knowledge securitization policy.

Male Domination—Continued

One woman, Mary E. Brunkow, was jointly awarded the Physiology and Medicine Nobel this year—compared to zero female science Nobelists last year, underscoring a consistent issue of [gender bias in Nobel prizes](#). Interestingly, Brunkow is affiliated with the Institute for Systems Biology, a health-research nonprofit in Seattle. She shares the prize with Fred Ramsdell (Sonoma Biotherapeutics, San Francisco, USA) and Shimon Sakaguchi (Osaka University, Japan). Remarkably, since 1901, only [20 women have won science prizes](#) out of 688 Nobel Prizes in Physics, Chemistry, Physiology and Medicine, and Economics. At present, with [about a third of global researchers](#) being women, more women will likely be nominated and win. But given the lag in Nobel prizes, it may take another decade or more.

Where is Asia?

Two Japanese scientists won Nobels this year: Shimon Sakaguchi of Osaka University (Physiology and Medicine) and Susumu Kitagawa of Kyoto University (Chemistry). While both have spent time outside of Japan as postdocs or visiting faculty, mainly in the US, their careers were otherwise entirely at home.

Japan is an interesting case, punching above its weight. Eighty percent of all Nobel laureates for Physics, Chemistry, and Physiology and Medicine were born in **one of 10 countries**: the US, the UK, Germany, France, Switzerland, Japan, Sweden, Russia, the Netherlands, and Austria. Japan-based scientists have won **29 Nobels in science**. Japan has, however, provided steady and rising research support to its top universities and has an active research culture. As of 2022, Japan was spending **3.4 percent of its GDP** on research—higher than **China's 2.56 percent**.

China, despite massive spending to upgrade its top universities and now having a huge cadre of STEM scientists and **impressive citation rates** in top scientific journals, has only one Nobel winner: Youyou Tu (notably, a woman), who won for Physiology and Medicine in 2015. Many have argued that China is still fairly new to basic research and that Nobels will start showing up in 20–30 years. Others point to fundamental challenges in the Chinese academic and research systems—overbureaucratization, a lack of academic freedom, and an overemphasis on quick results. India too has similar structural problems, with the added disadvantage of chronic underinvestment in research and higher education.

It is also somewhat surprising that Singapore (none) and Hong Kong (one prize in Physics, Charles Kuen Kao, Chinese University of Hong Kong) have not secured more Nobel prizes. Both countries have highly ranked research-intensive universities. Perhaps their time will come.

Expansion Beyond the University Sector

An intriguing development is that five of this year's 12 Nobelists have spent parts of their careers at tech or biotech companies or start-ups—a relatively new theme. Of interest, a couple of them have founded their own start-ups (e.g., John M. Martinis, Omar M. Yaghi), raising questions of why universities have not

adequately supported their research and what start-ups offer as alternative research venues.

The Dangers of Underinvestment

Science Nobels are typically awarded for work done 20–30 years prior, a gap that has been **increasing** over time. While the United States was again the big winner of the 2025 Science Nobels, receiving eight out of 12 awards, the recent dismantling of American federal science funding will surely result in fewer American Nobels in a few decades' time, given the delayed recognition of Nobel-winning research. Other countries are also underinvesting in research, a trend which will be worth monitoring over time. Even wealthy Norway has **sharply declined in its research-and-development expenditure**, from 2.2 percent of its GDP in 2020 to less than 1.6 percent in 2022, of which **only 33 percent** went to the higher education sector. India has also consistently underinvested in research (investment as of 2020 was at **0.65 percent of its GDP**), and likely at least partially as a result, Indian scientists residing in India have not won a science Nobel since 1930.

Conclusion

In speaking to young researchers, 2024 Nobel Prize winner in Economics, James Robinson, **advised**, "Academia is a marathon, not a sprint... this is not about one year or two years, or like one success or one failure. You'll be doing this for the next 40 to 50 years... there's a real chance to... build something and for knowledge to accumulate, and to invest and to just be ambitious." The question we ask is whether governments and universities still grasp what this kind of investment requires in terms of time, space, environment, funding, and freedom of research and collaboration — an investment which Alfred Nobel crucially recognized as necessary in order to make scientific discoveries for **"the greatest benefit to humankind"**.

Philip G. Altbach is professor and distinguished fellow emeritus at the Center for International Higher Education, Boston College, USA. Email: altbach@bc.edu.

Tessa DeLaquil is associate professor in the Department of Education and Lifelong Learning, Norwegian University of Science and Technology, Norway. Email: tessa.delaquil@ntnu.no.