



QS Subject Rankings 2012: top universities for natural sciences

Description

The release of the [QS World University by Subject revealed](#) some interesting trends. The big picture for natural sciences is much the same as in most subject areas: overall [US](#) domination, interspersed with fairly stable performance from universities in other well-established higher education destinations, and â?? in general â?? the most exciting upwards movement coming from emerging Asian universities.

Maths and chemistry: hot topics in Hong Kong

The main story at the top end of this yearâ??s [subject ranking for chemistry](#) is provided by Hong Kong. Not only has the [University of Hong Kong \(HKU\)](#) leapt from 47 last year to ninth this time round, but the [Hong Kong University of Science and Technology \(HKUST\)](#) has seen an almost equally impressive climb â?? from 43rd to 11th.

In the [ranking for mathematics](#), itâ??s the turn of the [City University of Hong Kong](#) to shine, climbing to 19th position this year, equal with [Australian National University](#).

Close behind are the Chinese University of Hong Kong (23) and HKU (26), while HKUST and the Hong Kong Polytechnic University also make the top 100.

This strong performance from Hong Kong shouldnâ??t come as a surprise. Hong Kongâ??s universities have established a strong presence in the overall QS World University Rankings, and the city-state claimed the top two spots in the new QS Top 50 Under 50 ranking earlier this year.

Earth and marine sciences: big in Japan

The University of Hong Kong has also shown good progress in earth and marine sciences, climbing from the top 150 last year, into the top 20.

However, Asiaâ??s strongest performer in this subject field is without doubt [Japan](#), which now has five top-50 universities for earth sciences.

Japan's highest ranking institution for earth sciences is the [University of Tokyo](#) (eighth overall in this year's QS University Rankings: Asia), which retains the same position as last year at 15th.

The other Japanese universities which figure in the earth sciences top 50 are [Kyoto University](#), [Tokyo Institute of Technology](#), [Tohoku University](#) and [Nagoya University](#). Several of these – Nagoya University and Tokyo Institute of Technology in particular – have seen very significant climbs, and all of the mentioned universities have moved upwards in the rankings.

As a country which is particularly vulnerable to natural disasters and extreme weather, it makes sense that earth and marine sciences research is a national priority in Japan.

Organizations supporting research in this field include the Japan Agency for Marine-Earth Science and Technology (JAMSTEC), the National Research Institute for Earth Science and Disaster Prevention (NIED) and the Japan Science and Technology Agency (JST).

An honorary mention for performance in both earth sciences and environmental sciences should also go to Australian National University (ANU), which is ranked in the top ten for both subjects.

Physics and astronomy: Swiss high fliers/ German consistency

The most impressive movement at the top end of the physics and astronomy ranking comes from Switzerland's [Ecole Polytechnique Fédérale de Lausanne \(EPFL\)](#), which has leapt from 30th to ninth, largely thanks to high scores for research output and reputation with employers.

In doing so, EPFL has overtaken fellow Swiss institution [ETH Zurich](#), which remains in tenth.

Significant upwards progress has also been made by Germany's [Ludwig-Maximilians-Universität München](#), which climbs from 21st to 12th, mainly due to its impressive score for research publication.

While [Switzerland](#) has the higher entries, [Germany](#) has a wider spread of top universities in the field; 17 German institutions make the physics and astronomy top 200.

That's fewer than the [UK](#), which has 25 top-200 entries, and far fewer than the US, which has 23 universities in the top 50 alone. But if these two undisputed higher education heavyweights are discounted, Germany emerges as the subject's leader.

For comparison, [France](#) has just five top-200 universities for physics, [Canada](#) has six, [China](#) and [Australia](#) each have seven and Japan has eleven.

Materials science: just one of NUS's conquests

In this year's materials science top 20, only two entries are from outside the US and UK: Switzerland's ETH Zurich at twelfth and the National University of Singapore (NUS) at seventh.

While ETH Zurich has dropped three places since last year, NUS has climbed five. Indeed, it's been a good year for NUS all round; in pretty much every subject ranking, it has moved up, and it is within or just outside the world top ten in a huge range of subjects.

Subjects in which NUS is now among the world's top ten include mechanical engineering, geography, law, computer science, accounting and finance, pharmacy, communication and media studies, statistics and modern languages.

With the obvious exceptions (think [Harvard, US](#) and [Cambridge, UK](#)), very few universities can boast such subject-wide high performance; NUS is definitely one of the higher education world's emerging ones to watch.