THE TIMES
HIGHER
EDUCATION SUPPLEMENT

QS

WORLD UNIVERSITY RANKINGS

NOVEMBER 9 2007

Ideas without borders as excellence goes global

The very top institutions may all be in the English-speaking world, but the top 200 are spread across 28 nations. Martin Ince reports

This fourth edition of *The Times Higher*-QS World University Rankings confirms the message of earlier editions: the top universities, on a number of measures, are in the English-speaking world. Although heavily dependent on state funding, they are independent of governments. And, in many cases, they are far from being ivory towers. Instead, they are active in generating new technology and ideas across a wide range of subject areas and are closely integrated into the economies and societies of which they form part.

Their success at generating new knowledge and producing highly employable graduates — in the US especially — has made them rich from alumni donations, research grants and spin-off companies. Harvard University, which this year is top for the fourth time, is the world's richest by some distance, outspending the research budgets of many countries.

These rankings show the US and the UK to be home to the top universities on a wide range of measures, reflecting their success as well as the esteem in which they are held worldwide by academics and employers. Canada, Australia, Japan and Hong Kong are the only other countries to appear in the top 20, while the top Continental European institution, the Ecole Normale Supérieure, is in 26th place.

But the rankings also contain a more subversive message. The top 200 universities are in 28 countries. Four are in the developing world: in Brazil (with two entrants), Mexico and South Africa, where the University of Cape Town finally enters the top 200 after three years of near misses. Many small but affluent countries, for example Switzerland and the Scandinavian nations, have at least one entry. The story is less favourable in Mediterranean Europe. Italy and Spain muster only three universities between them in this analysis. But the overall message is that if a consistent approach to measuring academic excellence, combining academic and employer opinion with numerical data, is applied across the world, high quality can be found on every continent.

As in previous years, these rankings, whose methodology is explained more fully on page 7, rely on a comparatively small number of simple measures because of the need to gather comparable data from institutions from China to Ireland. The top few are excellent on all the criteria we use, including those that reflect research excellence, teaching quality, graduate employability and attractiveness to students.

The tables that make up these rankings differ in two important respects from the first three editions. One is that they use a new and larger database to generate citations information. The other is that the data has for the first time been processed to eliminate single outliers having a disproportionate effect on the overall result. In the past, we have allotted a top score for each measure to the highest ranked university on that criterion, and expressed all the other scores for that measure as a percentage of the figure for the highest placed institution. This meant that one exceptional university could depress the scores for 199 others. This change has had a particularly chastening effect on the London School of Economics, which has fallen from 17th place in 2006 to 59th this year.

In addition, we have strengthened our safeguards against individuals voting for their own university in the peer review part of the analysis.

These changes have had a number of effects. The adjustments in our statistical methods means substantial change in the results between 2006 and 2007, but they will also bring more stability in future years. By contrast, Harvard in pole position was the only university whose placement did not change between our 2005 and 2006 rankings.

The larger database of citations that we use this year for the first time has the effect of giving an advantage to some East Asian universities, for example Seoul National in South Korea, up to 51 from 63 last year, and Tokyo Institute of Technology, up to 90 from 118.

But we suspect that some Malaysian and Singaporean institutions have lost out because of our increased rigour over voting for one's own university, and there are no Malaysian universities in this top 200. The two Singaporean universities we list, the National University of Singapore and Nanyang Technological University, have each taken a fall this year. The former is down from 19th last year to 33rd, while Nanyang has gone from 61st to 69th, but there is no doubt that they are both world-class universities in a country that is serious about becoming a world centre for science and technology.

We know these tables are used in many ways by a variety of audiences — from internationally mobile staff and students to university managers wanting a look at the international esteem in which their own and other universities are held, especially in Asia where interest in the rankings is at its highest.

A wider debate is what success in these rankings tells us about specific countries and regions. While the UK has 32 universities in the top 200, starting with Oxford, Cambridge and Imperial College London in second equal and fifth positions, Germany has only 11, starting with Heidelberg University in 60th position. This result will give more impetus to the German Government's decision to put more research money into universities.

In a head-to-head contest between Europe and North America, Europe's 86 listed universities easily defeat 57 in the US or even 71 for the whole of the Americas.

But a more interesting comparison may be with the Asia-Pacific region. This area musters only 41 entries in this year's rankings. Australia's important role in the English-speaking world and the energetic marketing of its universities across the Pacific give it 12 spots, with 11 for Japan, the world's

Alamy

“In a head-to-head contest between Europe and North America, Europe’s 86 universities defeat 57 in the US, or even 71 for the whole of the Americas”

second-biggest economy.

But perhaps this is a rare case where quality in university rankings counts for more than quantity. Many Asian universities have higher scores in 2007 than previously. Their governments may regard this as more important than the number of appearances for their own country. The Asia-Pacific region now has five of the world’s top 30 universities, two fewer than the UK but four more than France. Some of the improvement may be due to their enhanced citations performance. But it is also very possible that these and other Asia-Pacific institutions will become yet more visible in the rankings in future years. We know that in East Asia especially, governments look at these rankings with acute interest as a measure of their national standing in the world information economy.

In the decade since the 1997 financial crisis rocked the emerging Asian economies the countries of the region have increased their state and corporate spending on higher education apace, and it will take some time for the benefits to become apparent in rankings such as these. In particular, the assumption that non-English-speaking Asia is somewhere that students come from rather than go to will not hold up indefinitely. Mobile Chinese students who would once have regarded the US or Europe as the destination of choice are now looking at universities in nearby countries.

Despite the presence of South African, Brazilian and Mexican institutions in this table, the overall message of these rankings is that the sort of universities we list here, mainly large, general institutions, with a mingling of technology specialists, are a dauntingly expensive prospect for any country, let alone one in the developing world.

There is no reason to suppose that brainpower is not distributed uniformly around the world. But it is only one of the inputs to academic excellence. It is hard to imagine a world-class university in a country that lacks a significant tax base. Even in the US and the UK, whose universities are freestanding bodies that are proud of their independent status, governments put billions of dollars and pounds into higher education and privilege it with tax breaks.

But in the modern era, even taxpayers’ money will not buy a world-class university system. The US state universities, funded mainly by state taxes and comparatively modest student fees, are not well-represented in this ranking or in national tables of US universities. With the anomalous exception of the University of California, most have fallen behind private institutions in both teaching and research. They do a competent job within the US, but have little visibility around the world.

The US and UK domination of these rankings suggests that national academic success has a number of common ingredients. The English language is a helpful start. But equally vital is the ability to connect to an economy that rewards new knowledge, for example via patents. Across the rich world, too, universities have benefited from the growing expectation that all young people with appropriate talent will go to college. This has allowed them to grow even when, as in the UK, they are not free to charge home students fees on the scale that major US universities take for granted.

The inability of Russian institutions to figure in this year’s rankings may have much to do with Moscow’s inability to put adequate funds into its higher education system. The Indian Institutes of Technology have also fallen out of the rankings this year for the first time, partly because we are now seeking opinion on each individual IIT, not on the IIT system as a whole. However, Indian institutions including the IITs, along with Russian universities, are present in our analysis of the world’s top institutions in academic areas such as technology and the sciences (pages 8-9, 10-11).

The methodology we use is designed mainly to capture excellence in multipurpose universities in the rich world. We are seeking better ways to measure higher education in developing world countries, and for ways of comparing the achievements of specialist and postgraduate institutions with those of full-spectrum universities. We welcome your input to our thinking on the future of these rankings. ★

The Times Higher-QS World University Rankings are edited by Martin Ince, contributing editor of *The Times Higher*.

He welcomes response at Martin@martinince.com.

ACKNOWLEDGEMENTS

He wishes to thank Nunzio Quacquarelli and especially Ben Sowter, both of QS Quacquarelli Symonds, for their role in compiling the rankings, and in addition to the staff of Scopus, the providers of the citations data used in the rankings.

THE WORLD'S TOP 200 UNIVERSITIES

			Country	Peer review score	Employer review score	Staff/student score	Citations/staff score	International staff score	International students score	Overall score
1	1	Harvard University	US	100	100	100	96	93	91	100.0
2=	2	University of Cambridge	UK	100	100	99	83	98	91	97.6
2=	3	University of Oxford	UK	100	100	100	82	97	96	97.6
2=	4=	Yale University	US	100	98	100	91	84	75	97.6
5	9	Imperial College London	UK	99	99	100	81	98	100	97.5
6	10	Princeton University	US	100	94	95	97	83	75	97.2
7=	7	California Institute of Technology	US	100	55	100	100	100	91	96.5
7=	11	University of Chicago	US	100	97	100	86	71	90	96.5
9	25	University College London	UK	96	97	100	82	91	98	95.3
10	4=	Massachusetts Institute of Technology	US	100	99	85	98	34	94	94.6
11	12	Columbia University	US	100	96	94	91	34	89	94.5
12	21	McGill University	Canada	100	97	99	72	73	96	93.9
13	13	Duke University	US	98	97	100	92	16	74	93.4
14	26	University of Pennsylvania	US	97	96	88	92	83	65	93.3
15	23	Johns Hopkins University	US	99	77	98	96	35	69	92.9
16	16	Australian National University	Australia	100	91	100	66	68	91	91.6
17	19=	University of Tokyo	Japan	100	92	96	88	25	44	91.1
18	33=	University of Hong Kong	Hong Kong	95	90	85	79	100	89	90.7
19	6	Stanford University	US	100	99	66	100	25	94	90.6
20=	35=	Carnegie Mellon University	US	96	94	76	87	67	96	90.0
20=	15	Cornell University	US	100	98	74	93	36	69	90.0
22	8	University of California, Berkeley	US	100	98	59	92	73	88	89.7
23	33=	University of Edinburgh	UK	96	98	82	76	71	80	88.8
24	46=	King's College London	UK	90	95	91	70	93	84	88.2
25	29=	Kyoto University	Japan	99	89	83	90	29	24	87.2
26	18	Ecole Normale Supérieure, Paris	France	91	60	83	98	61	81	87.1
27	22	University of Melbourne	Australia	100	99	64	70	64	95	85.9
28	37	Ecole Polytechnique	France	76	94	100	78	70	94	85.1
29	42	Northwestern University	US	88	97	77	91	35	68	85.0
30	40	University of Manchester	UK	88	99	77	70	84	85	84.7
31	35=	University of Sydney	Australia	99	95	51	71	100	95	84.6
32	54=	Brown University	US	90	77	74	89	75	58	84.5
33=	50=	University of British Columbia	Canada	100	91	70	74	35	63	84.3
33=	45	University of Queensland	Australia	95	94	70	68	79	76	84.3
33=	19=	National University of Singapore	Singapore	100	93	34	84	100	100	84.3
36	14	Peking University	China	100	98	98	53	32	26	84.2
37	64=	University of Bristol	UK	81	98	85	77	88	72	84.1
38=	50=	Chinese University of Hong Kong	Hong Kong	83	79	80	80	100	85	83.8
38=	29=	University of Michigan	US	99	96	53	89	41	52	83.8
40	28	Tsinghua University	China	95	92	100	59	20	36	83.3
41	31	University of California, Los Angeles	US	100	92	56	91	20	36	82.8
42	24	ETH Zurich	Switzerland	92	75	61	74	100	92	82.5
43	38	Monash University	Australia	98	97	53	57	99	99	82.1
44	41	University of New South Wales	Australia	97	98	39	76	89	91	81.8
45	27	University of Toronto	Canada	100	96	21	93	86	50	80.6
46	70=	Osaka University	Japan	83	75	86	91	17	29	80.0
47	66	Boston University	US	91	89	49	88	29	88	79.7
48	69	University of Amsterdam	Netherlands	84	81	81	70	76	32	78.6
49	43	New York University	US	95	93	48	77	29	49	77.8
50	46=	University of Auckland	New Zealand	95	83	38	61	100	99	77.5
51=	63	Seoul National University	South Korea	92	54	80	79	16	24	77.1
51=	32	University of Texas at Austin	US	95	94	22	92	66	47	77.1
53=	58=	Hong Kong University of Science & Technology	Hong Kong	84	82	28	92	100	96	76.9
53=	78	Trinity College Dublin	Ireland	80	92	70	58	99	77	76.9
55=	84	University of Washington	US	84	50	73	92	44	33	76.7
55=	79=	University of Wisconsin-Madison	US	94	81	31	95	50	44	76.7
57	73	University of Warwick	UK	80	98	62	58	89	96	76.4
58	44	University of California, San Diego	US	98	39	51	95	23	30	76.3
59	17	London School of Economics	UK	89	100	65	29	100	100	75.7
60	58=	Heidelberg University	Germany	84	63	61	78	42	87	75.5
61	96	Katholieke Universiteit Leuven	Belgium	88	83	39	84	51	55	75.0
62	105=	University of Adelaide	Australia	75	86	66	65	77	96	74.7
63	86	Delft University of Technology	Netherlands	75	80	66	72	83	67	74.4

			Country	Peer review score	Employer review score	Staff/student score	Citations/staff score	International staff score	International students score	Overall score
64	111=	University of Western Australia	Australia	72	88	56	78	96	78	74.3
65=	90=	University of Birmingham	UK	71	93	62	75	84	70	74.1
65=	98	Ludwig-Maximilians-Universität München	Germany	80	60	70	72	58	71	74.1
67	82=	Technische Universität München	Germany	68	71	88	69	59	83	73.9
68	102=	University of Sheffield	UK	69	96	71	69	81	67	73.7
69	61=	Nanyang Technological University	Singapore	81	82	37	72	100	99	73.6
70	85	University of Nottingham	UK	69	98	64	65	84	88	73.2
71=	61=	Dartmouth College	US	60	89	91	83	26	53	73.0
71=	111=	Uppsala University	Sweden	85	34	81	72	51	26	73.0
73	77	University of Illinois	US	94	64	29	86	34	51	72.6
74=	56	Emory University	US	61	75	99	85	13	39	72.4
74=	124=	University of York	UK	62	91	77	69	76	83	72.4
76	109=	University of St Andrews	UK	57	95	78	69	91	99	72.3
77=	88	University of Pittsburgh	US	62	45	94	85	78	38	72.2
77=	127	Purdue University	US	87	79	24	82	76	64	72.2
79	111=	University of Maryland	US	71	62	71	85	48	45	72.1
80=	121	University of Leeds	UK	74	97	56	69	76	59	72.0
80=	141=	University of Southampton	UK	60	90	71	76	88	74	72.0
82	53	Vanderbilt University	US	55	81	99	87	28	41	71.9
83	81	University of Glasgow	UK	71	84	71	75	42	54	71.8
84	90=	Leiden University	Netherlands	81	63	35	93	78	40	71.7
85=	60	Case Western Reserve University	US	59	50	99	85	18	80	71.6
85=	116=	Fudan University	China	87	96	45	68	31	31	71.6
85=	87	University of Vienna	Austria	86	80	12	90	63	89	71.6
88	176	Queen's University	Canada	74	88	49	79	87	34	71.2
89	95	Utrecht University	Netherlands	80	55	65	80	38	24	70.9
90=	99=	Pennsylvania State University	US	84	82	63	64	18	24	70.5
90=	118	Tokyo Institute of Technology	Japan	67	86	59	91	34	42	70.5
92	102=	Rice University	US	65	45	80	88	39	58	70.3
93=	54=	University of Copenhagen	Denmark	82	55	51	70	66	62	70.1
93=	181=	University of Montreal	Canada	88	50	31	80	89	41	70.1
95	48=	University of Rochester	US	58	38	100	84	24	63	69.3
96	170=	University of California, Davis	US	83	34	60	82	31	26	69.1
97=	133=	University of Alberta	Canada	88	30	23	87	88	62	68.8
97=	145	Georgia Institute of Technology	US	79	77	25	93	18	74	68.8
99	141=	Cardiff University	UK	62	84	70	65	72	75	68.6
100	116=	University of Helsinki	Finland	79	45	28	93	56	78	68.2
101	139	University of Liverpool	UK	55	85	70	76	83	64	68.1
102=	102=	Georgetown University	US	57	94	69	80	28	73	68.0
102=	108	National Taiwan University	Taiwan	86	68	39	79	18	24	68.0
102=	168=	Tohoku University	Japan	53	59	96	84	40	32	68.0
105	39	University of Geneva	Switzerland	62	54	39	91	100	100	67.2
106	122	Lund University	Sweden	76	41	43	81	77	52	66.9
107	211=	University of Colorado	US	60	15	100	85	33	31	66.8
108	155	McMaster University	Canada	84	49	31	89	28	37	66.6
109	132	Durham University	UK	59	98	49	74	92	61	66.5
110	130=	University of Virginia	US	63	94	52	86	22	36	66.4
111	172=	Maastricht University	Netherlands	43	72	80	81	68	99	66.2
112=	128=	Nagoya University	Japan	53	74	83	85	25	30	66.1
112=	204=	University of Waterloo	Canada	82	82	17	75	63	49	66.1
114=	126	University of Aarhus	Denmark	65	19	89	69	59	37	65.6
114=	75	University of Basel	Switzerland	52	20	99	67	89	81	65.6
114=	79=	University of Otago	New Zealand	69	61	39	66	100	92	65.6
117=	141=	University of California, Santa Barbara	US	88	31	25	89	43	21	65.5
117=	64=	Ecole Polytechnique Fédérale De Lausanne	Switzerland	58	58	97	29	100	100	65.5
119	101	University of Southern California	US	62	77	52	80	25	78	65.4
120	219=	Ohio State University	US	69	77	39	79	67	38	65.3
121	105=	University of Sussex	UK	58	51	58	77	90	83	65.2
122	150=	Texas A&M University	US	76	75	27	81	41	39	64.9
123	76	Université Catholique de Louvain	Belgium	78	60	28	73	50	74	64.8
124	141=	University of Ghent	Belgium	63	29	88	69	47	30	64.5
125	180	Nanjing University	China	74	72	45	69	59	14	64.4
126=	105=	Humboldt-Universität zu Berlin	Germany	71	38	71	57	44	68	64.3

			Country	Peer review score	Employer review score	Staff/student score	Citations/staff score	International staff score	International students score	Overall score
126=	215=	University of Western Ontario	Canada	68	90	30	80	72	30	64.3
128	119	Hebrew University of Jerusalem	Israel	86	20	18	91	83	14	64.0
129	133=	Newcastle University	UK	45	87	74	67	80	80	63.9
130=	194	Technical University of Denmark	Denmark	47	23	86	84	91	59	63.8
130=	67	Eindhoven University of Technology	Netherlands	48	48	99	69	60	48	63.8
132=	198=	Korea Advanced Institute of Science & Technol	South Korea	65	27	64	85	53	28	63.7
132=	93=	Université Pierre et Marie Curie, Paris VI	France	60	5	90	73	20	92	63.7
134	224=	University of Arizona	US	69	57	37	88	28	45	63.1
135	226=	University of Florida	US	62	41	77	74	27	32	63.0
136	128=	Kyushu University	Japan	50	68	80	82	17	31	62.8
137=	195	University of Aberdeen	UK	45	64	78	67	91	73	62.7
137=	232=	Indiana University Bloomington	US	67	79	28	85	45	37	62.7
139	282=	Simon Fraser University	Canada	72	72	22	67	97	62	62.6
140=	198=	University of California, Irvine	US	79	30	38	82	27	30	62.5
140=	109=	University of Zurich	Switzerland	71	32	13	95	99	58	62.5
142=	187=	University of Minnesota	US	76	43	28	89	26	35	62.3
142=	170=	Universität Tübingen	Germany	60	52	46	79	76	65	62.3
144	219=	Universität Freiburg	Germany	57	23	93	61	24	76	62.2
145	153	University of Bath	UK	46	96	49	71	91	91	62.0
146	149	Freie Universität Berlin	Germany	79	16	31	70	70	81	61.9
147	228=	University of Lancaster	UK	49	80	65	57	88	81	61.7
148	97	Wageningen University	Netherlands	39	28	88	87	46	97	61.5
149=	154	City University of Hong Kong	Hong Kong	62	51	37	76	100	51	61.2
149=	99=	Queen Mary, University of London	UK	55	65	81	30	94	92	61.2
151=	133=	Hokkaido University	Japan	49	69	76	82	19	21	61.1
151=	123	University of North Carolina	US	72	86	28	74	22	20	61.1
151=	147=	Tel Aviv University	Israel	81	36	26	89	13	13	61.1
154	165=	Université Libre de Bruxelles	Belgium	56	52	57	69	43	96	61.0
155=	165=	University of Science and Technology of China	China	75	77	28	76	16	11	60.9
155=	152	University of Notre Dame	US	56	88	43	81	25	50	60.9
157	72	Ecole Normale Supérieure de Lyon	France	42	45	100	67	41	58	60.8
158	140	Cranfield University	UK	31	74	100	57	74	100	60.7
159=	163	Michigan State University	US	63	71	33	76	65	45	60.6
159=	130=	Tufts University	US	42	78	61	90	46	44	60.6
161=	120	Keio University	Japan	52	88	91	45	25	16	59.9
161=	48=	Washington University in St Louis	US	72	62	100	1	27	48	59.9
163=	92	Erasmus University Rotterdam	Netherlands	51	97	28	88	64	45	59.7
163=	179	Shanghai Jiao Tong University	China	72	92	38	55	35	11	59.7
165	201=	Universität Stuttgart	Germany	47	81	71	50	52	90	59.4
166=	266=	University of Calgary	Canada	67	61	28	81	24	37	58.9
166=	138	Vienna University of Technology	Austria	53	44	68	52	75	88	58.9
168=	156=	Universität Göttingen	Germany	66	-	73	59	41	54	58.8
168=	82=	Macquarie University	Australia	61	89	23	52	85	99	58.8
170	291	Helsinki University of Technology	Finland	52	17	94	57	56	44	58.7
171=	238	University of Dundee	UK	44	51	65	71	84	66	58.3
171=	222=	Universität Karlsruhe	Germany	45	60	73	59	56	85	58.3
173=	207=	University of Bologna	Italy	78	66	24	62	21	26	58.2
173=	232=	University of Groningen	Netherlands	48	51	69	74	62	29	58.2
175=	124=	University of Massachusetts, Amherst	US	62	45	34	90	24	31	57.9
175=	284=	University of São Paulo	Brazil	65	59	51	63	24	14	57.9
177=	448	University of Campinas	Brazil	52	30	78	73	43	16	57.8
177=	219=	University College Dublin	Ireland	56	85	29	63	89	58	57.8
177=	215=	Rutgers, The State University of New Jersey	US	72	33	30	73	60	24	57.8
180=	190=	University of Reading	UK	45	67	52	69	78	78	57.7
180=	158=	Waseda University	Japan	68	92	64	25	26	23	57.7
182	172=	Rheinisch-Westfälische Technische Hochschule Aachen	Germany	40	80	80	48	53	81	57.5
183	197	Università Degli Studi Di Roma, La Sapienza	Italy	79	63	11	71	15	21	57.3
184	161=	Université Louis Pasteur, Strasbourg I	France	58	64	19	82	45	77	57.1
185=	239=	University of Leicester	UK	37	60	60	76	77	86	57.0
185=	115	University of Twente	Netherlands	46	42	61	76	75	51	57.0
187	252=	University of Antwerp	Belgium	41	7	99	67	57	59	56.9
188=	333=	University of Canterbury	New Zealand	62	77	30	55	55	66	56.6
188=	177	University of Oslo	Norway	61	25	54	62	51	55	56.6

			Country	Peer review score	Employer review score	Staff/student score	Citations/staff score	International staff score	International students score	Overall score
190	258=	University of Surrey	UK	33	79	61	64	95	92	56.4
191	255=	Rensselaer Polytechnic Institute	US	44	44	44	90	70	58	56.2
192=	172=	KTH, Royal Institute of Technology	Sweden	49	17	51	70	90	99	56.1
192=	74	Universidad Nacional Autónoma de México	Mexico	74	78	64	13	28	13	56.1
194	190=	University of Barcelona	Spain	69	46	22	78	17	36	55.9
195=	137	Radboud Universiteit Nijmegen	Netherlands	40	19	82	75	83	31	55.8
195=	192=	Queensland University of Technology	Australia	66	87	28	39	64	63	55.8
197=	147=	Chalmers University of Technology	Sweden	51	23	42	83	74	59	55.5
197=	181=	Kobe University	Japan	51	67	60	65	22	27	55.5
199	196	University of Wollongong	Australia	45	89	31	58	99	99	55.3
200=	257	University of Cape Town	South Africa	54	69	28	68	27	91	54.8
200=	146	RMIT University	Australia	63	88	22	32	74	99	54.8

Source: QS Quacquarelli Symonds

Fine tuning reveals distinctions

Peer review is key to identifying top quality but a fairer overall picture emerges due to changes in analysis

The extensive discussion of *The Times Higher*-QS World University Rankings that has taken place worldwide since their first appearance in 2004 has strengthened our belief in the general approach we have taken, and we have not made any fundamental changes to our methodology in that time.

Like the first three editions, this ranking is a composite indicator integrating peer review and opinion with quantitative data. The data-gathering for the rankings has grown in quality and quantity during their lifetime.

The core of our methodology is the belief that expert opinion is a valid way to assess the standing of top universities. Our rankings contain two strands of peer review. The more important is academic opinion, worth 40 per cent of the total score available in the rankings. The opinions are gathered, like the rest of the rankings data, by our partners QS Quacquarelli Symonds (www.topuniversities.com), which has built up a database of e-mail addresses of active academics across the world. They are invited to tell QS what area of academic life they come from, choosing from science, biomedicine, technology, social science or the arts and humanities. They are then asked to list up to 30 universities that they regard as the leaders in the academic field they know about, and in 2007 we have strengthened our measures to prevent anyone voting for his or her own institution.

This year we have the opinions of 5,101 experts, of whom 41 per cent are in Europe, the Middle East and Africa, 30 per cent in the Americas, and 29 per cent in the Asia-Pacific region. This includes respondents from 2005 and 2006 whose data have been aggregated with new responses from this year. No data more than three years old is used, and only the most recent data is taken from anyone who has responded more than once.

A further 10 per cent of the possible score in these rankings is derived from active recruiters of graduates. QS asks major global and national employers across the public and private sectors which universities they like to hire from. This year's sample includes 1,471 people, with 43 per cent in the Americas, 32 per cent in Europe and 25 per cent in Asia-Pacific.

The first major change to this year's rankings is in the way that these responses, and the quantitative data that makes up the rest of the table, are processed. In the past, the topmost institution on any measure has received maximum score. The others are then given a fraction of this percentage proportional to their score.

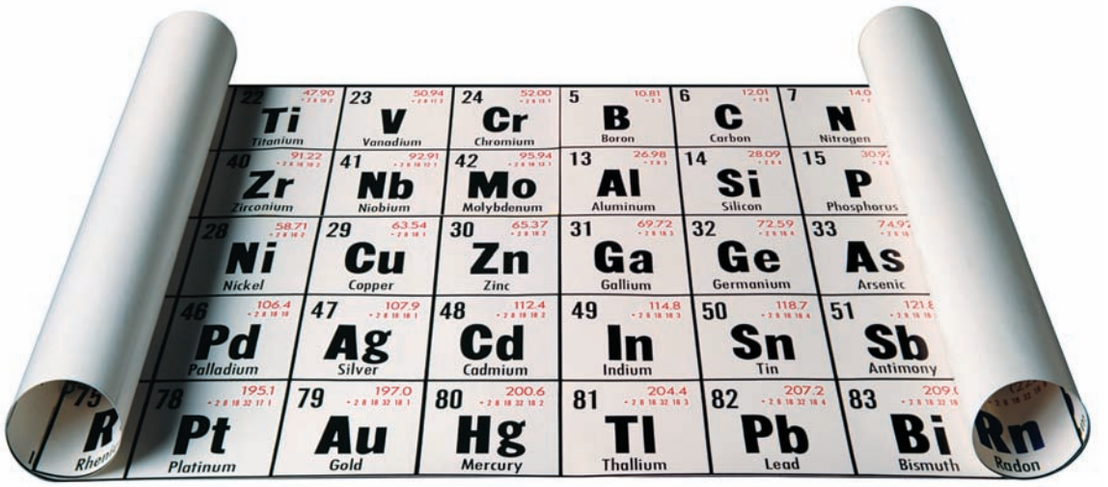
This approach has the drawback that an exceptional institution distorts the results. In 2006, our measure of citations per staff member gave the top score of 100 to the California Institute of Technology, while Harvard University, in second place, scored only 55. So almost half the variation on this measure was between the first and second-place universities.

We have solved this problem by switching from this arithmetical measure to a Z-score, which determines how far away any institution's score is from the average. Some universities suffer as a result, such as CalTech on citations and the London School of Economics on overseas students. But this approach gives fairer results and is used by other rankings organisations.

Our quantitative measures are designed to capture key components of academic success. QS gathers the underlying data from national bodies where possible, but much of it is collected directly from universities themselves. of these measures, staff-to-student ratio is a classic gauge of an institution's commitment to teaching. This year we have improved its rigour by obtaining full and part-time numbers for staff and students, and using full-time equivalents throughout as far as possible. This measure is worth 20 per cent of the total possible score.

A further 20 per cent of the possible score is designed to reward research excellence. Citations of an institution's published papers by others are the accepted measure of research quality. We have used five years of citations between 2002 and 2006 as indexed by Scopus, a leading supplier of such data. Scopus (www.scopus.com) has replaced Thomson Scientific as supplier of citations data. We are confident that Scopus's coverage is at least as thorough as Thomson's, especially in non-English language journals. We divide the number of citations by the number of full-time equivalent staff to give an indication of the density of research firepower on each university campus.

The final part of our score is designed to measure universities' attractiveness to staff and students. It allots five percentage points for the number of their staff who come from other countries, and a further five for their percentage of overseas students. It shows us which institutions are serious about globalisation, and points to the places where ambitious and mobile academics and students want to be. **Martin Ince** ★



Alamy

Rewards for the well-resourced

The deep pockets of many US institutions, and a select few in the UK, attest to the high cost of attaining success

Where are the world's top scientists? Over the four years of *The Times Higher*-QS World University Rankings, the verdict of the experts we poll has been unanimous: the world's top scientists are in the UK and the US. Last year, they made Cambridge and Oxford the top two science universities. This year, they have chosen the University of California, Berkeley, and the Massachusetts Institute of Technology, with Cambridge and Oxford in third and eighth places respectively.

In this table and the following faculty-specific rankings, we place universities in order of the opinions of our peer reviewers, who are active academics in the subjects on which they are giving their views. This year they have put US and UK universities in the top 11 places. Tokyo, in 12th position, is the top institution from any other country.

But there is no room for British triumphalism. The large amount of research funding that goes into a small number of UK universities appears, on the evidence of this table, to buy top performance for a few universities, but is less good at building strength in depth. The US has 24 universities in this top 50, but the UK manages only three, putting it level with France and Canada, behind Australia.

France and Germany's relatively modest showing in this table is often attributed to the fact that many of their scientists work in state labs, not universities. This argument is strengthened by this year's Nobel prize awards. The prize for physics was shared by Albert Fert, who works partly for the company Thales and partly at Université Paris-Sud, and Peter Grünberg, who works in the Jülich research centre in Germany. The prize for chemistry went to Gerhard Erlt, who is based at the Max-Planck Society, the biggest German research institution. However, we are ranking universities, not countries.

This table also shows citations per paper over a five-year period for science publications, as measured by Scopus. Because the subject area being analysed is similar for each institution, this shows which universities are producing research with the most impact. We have not aggregated the two columns to produce an overall score. Experts on composite tables such as this agree that combining just two measures such as these would not produce a meaningful result.

Some US institutions such as New York University are rated far more modestly by other researchers than their citations might suggest. At the other extreme, 11 of the top 20 universities as measured by our peer reviewers manage fewer than seven citations per paper.

Drew Faust, installed last month as president of Harvard University, can draw comfort from the fact that her university is number one in the world overall, as well as in life sciences and biomedicine, with its biggest component, Harvard Medical School, regarded as the best. And so it should be. It has more than 11,000 staff, an annual budget of $470 million (£230 million) and an endowment given as $3,256,509,589.

Not everyone agrees that Harvard is top of the medical tree. It has won only two Nobel prizes for medicine since 1981. But the esteem in which it is held by biomedical academics around the world suggests it is producing key discoveries at an impressive rate.

There may be arguments about where the best economists or historians ply their trade. But this table shows that the sheer amount of cash available for medical research in the US enables it to dominate this high-pressure, big-money field, with 22 of the top 50 institutions. The funds open to US institutions include about $23 billion a year for universities from the National Institutes of Health, plus funding from large medical charities and a range of government bodies such as the Veterans Health Administration. The Bill and Melinda Gates Foundation adds further to US resources for biomedical research.

However, this table suggests that recent increases in UK health research are paying off. The field is led by the Medical Research Council, whose budgets have grown rapidly in recent years and are set to expand further as its activities are co-ordinated more closely with National Health Service research. And as well as state funding via the MRC, the UK is home to the Wellcome Trust, the biggest medical charity outside the US. Cambridge and Oxford appear second and third, with Imperial College London seventh. A total of seven UK universities are in this top 50.

We separate this analysis from our look at the rest of the sciences because the sheer amount of biomedical research, and its ferocious publishing culture, would swamp the less prosperous and cut-throat natural sciences if we merged the two. But as well as being important and well-funded, biomedical research is controversial: think of stem cells or xenotransplantation.

But there is little here to suggest that the Bush Administration's unease about some of these developments is hobbling medical scientists in the US. Apart from some high-profile defections to Asia and Europe, the US is where the top researchers in this field want to be.

Asian nations with ambitions on the world stage have realised that biomedicine offers a unique chance to carve out new industries and markets. Universities in Singapore, Korea, Hong Kong and China appear in this table along with more established institutions in Japan, Australia and New Zealand. Our citations data suggest they are producing some well-regarded papers.

By contrast, Chinese and Russian universities are well liked by their academic peers but produce few high-impact research papers. **Martin Ince** ★

TOP 50 UNIVERSITIES FOR NATURAL SCIENCES

		Country	Score	Citations per paper
1	University of California, Berkeley	US	100	9.0
2	Massachusetts Institute of Technology	US	97.6	7.8
3	University of Cambridge	UK	92.9	6.2
4	Harvard University	US	92.6	11.1
5	Princeton University	US	90.2	12.2
6	California Institute of Technology	US	87.4	9.1
7	Stanford University	US	86.9	6.3
8	University of Oxford	UK	86.7	6.3
9	Cornell University	US	77.4	7.2
10	Yale University	US	72.4	8.8
11	University of Chicago	US	72.0	13.8
12	University of Tokyo	Japan	70.6	5.6
13	Imperial College London	UK	70.2	5.3
14	University of California, Los Angeles	US	67.6	7.8
15	Peking University	China	67.5	3.2
16	University of Toronto	Canada	66.5	6.1
17	Kyoto University	Japan	65.8	5.0
18	ETH Zurich	Switzerland	63.0	4.0
19	Australian National University	Australia	62.7	5.5
20	Ecole Normale Supérieure, Paris	France	62.6	6.9
21	Columbia University	US	62.3	9.0
22	University of California, Santa Barbara	US	58.2	8.9
23	University of Texas at Austin	US	56.2	6.3
24	University of Michigan	US	56.0	6.1
25	National University of Singapore	Singapore	55.8	4.1
26	McGill University	Canada	53.6	4.4
27=	University of California, San Diego	US	53.3	6.2
27=	Lomonosov Moscow State University	Russia	53.3	2.5
29	University of Illinois	US	52.0	6.1
30	University of British Columbia	Canada	51.7	5.8
31	Ecole Polytechnique	France	51.3	5.2
32	Université Pierre et Marie Curie, Paris VI	France	49.7	4.9
33	University of Melbourne	Australia	49.5	5.2
34	Tsinghua University	China	48.0	2.5
35	University of Pennsylvania	US	47.2	10.3
36	Technion – Israel Institute of Technology	Israel	47.1	5.7
37	Johns Hopkins University	US	46.9	10.1
38	Seoul National University	S Korea	45.8	4.3
39	University of Wisconsin-Madison	US	45.4	5.9
40=	University of Science & Technology of China	China	44.6	2.5
40=	Università Degli Studi Di Roma, La Sapienza	Italy	44.6	4.0
42	New York University	US	43.4	11.3
43	University of Sydney	Australia	42.9	4.4
44	Pennsylvania State University	US	42.4	6.6
45=	Heidelberg University	Germany	42.2	6.0
45=	Stony Brook University	US	42.2	2.0
47=	Utrecht University	Netherlands	42.1	5.8
47=	University of Waterloo	Canada	42.1	3.8
49	Georgia Institute of Technology	US	41.7	5.6
50	Carnegie Mellon University	US	41.5	8.0

Source: QS Quacquarelli Symonds.

TOP 50 UNIVERSITIES FOR LIFE SCIENCES AND BIOMEDICINE

		Country	Score	Citations
1	Harvard University	US	100	9.1
2	University of Cambridge	UK	93.3	7.5
3	University of Oxford	UK	87.1	7.8
4	Johns Hopkins University	US	86.7	7.1
5	University of California, Berkeley	US	85.4	7.7
6	Stanford University	US	82.0	7.7
7	Imperial College London	UK	75.6	6.2
8	Yale University	US	73.8	7.5
9	Massachusetts Institute of Technology	US	73.5	11.3
10	McGill University	Canada	70.8	5.5
11	University of California, San Diego	US	66.9	7.2
12	National University of Singapore	Singapore	66.3	4.4
13	University of Tokyo	Japan	65.2	4.8
14	University of Toronto	Canada	63.9	6.3
15	University of California, Los Angeles	US	63.4	5.6
16	Cornell University	US	62.8	5.9
17	University of Melbourne	Australia	61.1	4.5
18	Peking University	China	61.0	2.4
19	Duke University	US	60.0	7.0
20	University of British Columbia	Canada	59.5	5.0
21	California Institute of Technology	US	57.9	10.4
22	Monash University	Australia	57.8	4.2
23	University of Sydney	Australia	57.7	4.3
24	Karolinska Institute	Sweden	55.7	5.5
25	Columbia University	US	55.1	6.8
26	University College London	UK	54.8	6.2
27	Kyoto University	Japan	54.5	4.6
28	Australian National University	Australia	54.4	4.9
29	Princeton University	US	53.7	7.5
30	University of Edinburgh	UK	53.2	6.0
31	University of Queensland	Australia	53.1	4.4
32	King's College London	UK	52.0	5.0
33	University of Michigan	US	51.6	6.4
34	Washington University, St Louis	US	51.5	0.6
35	University of Pennsylvania	US	51.1	6.6
36	University of Hong Kong	Hong Kong	50.4	5.4
37=	University of Chicago	US	49.7	6.6
37=	University of California, Davis	US	49.7	4.2
39	Osaka University	Japan	48.8	5.3
40	Uppsala University	Sweden	48.6	5.0
41	University of Auckland	NZ	45.9	4.5
42	University of Washington	US	43.7	6.6
43	Heidelberg University	Germany	43.1	4.7
44	Boston University	US	42.9	6.6
45	University of Wisconsin-Madison	US	42.8	5.7
46	Seoul National University	S Korea	42.7	3.3
47	New York University	US	42.5	5.6
48	University of Bristol	UK	41.6	4.9
49	Université Louis Pasteur, Strasbourg I	France	40.9	4.9
50	University of New South Wales	Australia	40.3	4.4

Source: QS Quacquarelli Symonds.

The innovators and educators

Technology powerhouses and social science leaders boast a global reach, reflecting governments' awareness of these fields' economic impact

Our listing of the world's top-rated universities for technology is the only place in the *The Times Higher*-QS World University Rankings where Harvard University is not at or near the top. It is in its lowliest place in our tables as rival Massachusetts Institute of Technology takes the top slot.

The US has 19 universities in our top 50 table, which is headed by MIT – probably the world's biggest single technology innovator of the postwar period – followed by the University of California, Berkeley, Stanford University and the California Institute of Technology, the intellectual motors of Silicon Valley. CalTech, with 1,200 academic staff, 1,200 postgraduate students and fewer than 900 undergraduates, is probably better geared up to produce top research than any other university in the world. Located just a few miles from Hollywood, it may also be the only institution to list prices for using its campus as a backdrop.

This table shows that European countries that seek to base their economic futures on quality manufacturing, rather than quantity, take engineering seriously. The UK has four universities here, with Cambridge and Imperial College London in the top ten. A further nine are in continental Europe, including two in Switzerland, which balances banking with mainstream engineering in its economic mix.

Our decision this year to list the separate elements of the Indian Institutes of Technology rather than seek opinion of the IIT overall has led to its leaving our main rankings. But their peers around the world have voted two IITs — Mumbai and Delhi — into this table.

> **"European states seeking to base their economic futures on quality manufacturing, rather than quantity, take engineering seriously"**

Technology has emerged as a key battleground in Asian economic competition and the ranking reveals the institutions in the struggle. Tsinghua University, which likes to be known as the MIT of China, appears here in 16th place as the best placed of China's three entries.

But Japan's longer established technological dominance is reflected in the University of Tokyo's place as Asia's top technology university. It is in ninth spot, one above the National University of Singapore. Singapore's Nanyang University, a specialist technology institution, is at 25. South Korea's emergence as a technology power is supported by the appearance here of the Korea Advanced Institute of Science and Technology, founded in 1971 in a deliberate attempt to create a Korean MIT.

Our listing of citations per paper shows that engineers and IT academics cite fewer papers than their scientific and medical colleagues. An average MIT biomedical paper has 11.3 citations; one in technology gets only four. The most cited papers come from Ecole Polytechnique Fédérale de Lausanne, the French-speaking half of the Swiss federal university system, despite its modest 47th place in the peer review.

The social sciences affect more people every day than perhaps any other area of academic life. The economists who decide government policies are one species of social scientist, while the teachers our children encounter at school are another. Management is a social science, and people who run businesses around the world are increasingly likely to have a formal academic qualification such as an MBA.

Alamy

Recent years have been marked by a growing convergence between the social and natural sciences. The former appear in their own right in the European Commission's current Seventh Framework Programme for research. Like the arts and humanities, they are also becoming more international.

Globalisation creates a new need for international knowledge about societies as well as economies, while the post 9/11 world has a raised awareness that cultures that once seemed obscure might suddenly become important to know about. At the same time, rapid technological and social change in advanced societies means that the insights of social science are increasingly essential.

This table shows that world opinion regards the biggest US and UK universities as leaders in the social sciences. Harvard, Berkeley, Stanford and Yale dominate from the US, and Oxford and Cambridge from the UK. But the top UK institution is the London School of Economics, which takes much the same role in the UK social sciences as Imperial College London does in science and engineering.

Because we list only institutions that teach undergraduates, this table does not include postgraduate universities such as the Institute of Education in London or the London Business School. But it is apparent that having a business school is a route to garnering esteem in the social sciences. Harvard's is possibly the world's best known, and joins the John F. Kennedy School of Government among the centres that put Harvard top of this table. Other big US business schools, such as Sloan and Wharton, probably account for the presence of Massachusetts Institute of Technology and University of Pennsylvania at 11 and 22.

Of the five faculty-specific analyses on these pages, this is the one in which Asian institutions outside Australia and New Zealand show up least well. China, Japan, Singapore and Hong Kong appear only six times, while the US has 21 institutions.

Our analysis of citations in the social sciences shows that, in contrast to medicine, Europe has the most cited researchers. University College London is the clear winner, despite being 32nd in our peer review for the social sciences. In future years, US and European social scientists may draw further ahead of the rest of the world as the field becomes more expensive and more dependent on advanced methodology and data-gathering.

Martin Ince ★

TOP 50 UNIVERSITIES FOR TECHNOLOGY

		Country	Score	Citations
1	Massachusetts Institute of Technology	US	100	4.0
2	University of California, Berkeley	US	94.5	4.2
3	Stanford University	US	84.7	4.3
4	California Institute of Technology	US	80.0	3.7
5	University of Cambridge	UK	75.6	3.4
6	Imperial College London	UK	72.1	2.7
7	Carnegie Mellon University	US	71.0	3.6
8	Georgia Institute of Technology	US	68.0	2.9
9	University of Tokyo	Japan	65.1	2.1
10	National University of Singapore	Singapore	63.8	2.9
11	University of Toronto	Canada	60.4	3.5
12	University of Oxford	UK	60.2	3.7
13	ETH Zurich	Switzerland	59.6	2.5
14	Princeton University	US	59.2	4.7
15	Harvard University	US	58.3	5.1
16	Tsinghua University	China	58.2	1.2
17	Delft University of Technology	Netherlands	57.7	2.6
18	University of California, Los Angeles	US	57.4	4.1
19	University of Illinois	US	57.3	3.5
20	Cornell University	US	56.7	4.4
21	University of Melbourne	Australia	54.1	2.9
22	Tokyo Institute of Technology	Japan	53.8	1.8
23	Hong Kong University of Science & Technology	Hong Kong	53.6	3.1
24	Purdue University	US	53.3	2.7
25=	Technion – Israel Institute of Technology	Israel	53.1	1.8
25=	Nanyang Technological University	Singapore	53.1	2.1
27	McGill University	Canada	52.8	2.4
28	University of New South Wales	Australia	52.5	2.5
29	Kyoto University	Japan	50.7	2.0
30=	University of British Columbia	Canada	50.5	2.6
30=	University of Texas at Austin	US	50.5	2.9
32	University of Michigan	US	50.4	3.6
33	Indian Institute of Technology Bombay	India	49.4	1.6
34	Ecole Polytechnique	France	48.5	2.3
35	University of Waterloo	Canada	48.4	2.0
36	Peking University	China	48.2	1.8
37	Indian Institute of Technology Delhi	India	47.3	1.7
38	University of California, San Diego	US	47.0	3.8
39	Australian National University	Australia	46.4	2.4
40	Technische Universität München	Germany	44.7	2.5
41=	University of Sydney	Australia	44.5	2.3
41=	Texas A&M University	US	44.5	2.4
43	University of Manchester	UK	43.9	2.6
44	Monash University	Australia	42.8	2.0
45	Virginia Polytechnic Institute	US	42.7	2.2
46	Yale University	US	41.7	4.5
47	Ecole Polytechnique Fédérale de Lausanne	Switzerland	41.6	5.3
48	Korea Advanced Inst of Science & Technology	S Korea	41.3	1.9
49	University of Science & Technology of China	China	40.8	1.0
50	Rensselaer Polytechnic Institute	US	40.6	3.3

Source: QS Quacquarelli Symonds

TOP 50 UNIVERSITIES FOR SOCIAL SCIENCES

		Country	Score	Citations
1	Harvard University	US	100	5.6
2	University of California, Berkeley	US	93.9	5.2
3	London School of Economics	UK	83.4	2.2
4	Yale University	US	82.8	4.3
5	Stanford University	US	82.2	5.0
6	University of Oxford	UK	81.6	4.2
7	University of Cambridge	UK	81.1	4.1
8	University of Chicago	US	79.6	4.4
9	Princeton University	US	78.9	4.5
10	Columbia University	US	76.5	4.3
11	Massachusetts Institute of Technology	US	75.8	4.9
12	McGill University	Canada	72.1	3.8
13	University of Toronto	Canada	71.8	3.6
14	University of British Columbia	Canada	70.8	3.4
15	University of California, Los Angeles	US	67.8	4.9
16	Australian National University	Australia	66.2	2.4
17=	Cornell University	US	61.8	3.9
17=	University of Melbourne	Australia	61.8	3.7
19	University of Michigan	US	60.4	4.1
20	National University of Singapore	Singapore	59.5	2.1
21	New York University	US	58.3	4.0
22	University of Pennsylvania	US	57.7	4.2
23	Peking University	China	56.3	2.1
24	University of Tokyo	Japan	54.2	2.2
25	Duke University	US	53.9	5.2
26	Monash University	Australia	51.8	2.1
27	University of Sydney	Australia	50.7	2.7
28	Carnegie Mellon University	US	48.9	4.5
29	Northwestern University	US	48.6	3.8
30	University of New South Wales	Australia	47.7	3.7
31	University of Hong Kong	Hong Kong	47.2	2.1
32	University College London	UK	46.4	7.6
33	University of California, San Diego	US	45.7	4.5
34	University of Queensland	Australia	45.2	3.1
35	University of Auckland	NZ	45.0	2.9
36	Boston University	US	44.8	4.5
37	University of Wisconsin-Madison	US	44.5	4.3
38	Johns Hopkins University	US	44.1	4.1
39	Université de Montréal	Canada	43.1	3.2
40	University of Warwick	UK	42.3	2.9
41	York University	Canada	41.9	2.6
42	Université Catholique de Louvain	Belgium	41.5	2.9
43	Queen's University	Canada	41.4	3.2
44	Tsinghua University	China	41.1	1.3
45	University of Copenhagen	Denmark	40.2	3.1
46	University of Vienna	Austria	39.8	3.2
47	University of Edinburgh	UK	39.6	3.6
48=	Chinese University of Hong Kong	Hong Kong	39.4	2.5
48=	University of Amsterdam	Netherlands	39.4	3.4
50	Pennsylvania State University	US	38.9	3.1

Source: QS Quacquarelli Symonds

Works of art in the making

Despite their essential role in leading political and cultural debate, arts and humanities are often relegated to the back seat by the sciences

Researchers in the arts and humanities often do not publish their most important work in refereed journals. They might write a book, compose a symphony or curate an exhibition with a scholarly catalogue. This means that academic success is harder to define here than in other areas of scholarship. It also explains why this table does not attempt to measure academic achievement in these subjects by looking at publications.

But the story it tells about excellence in these areas is revealing. The subjects range widely from philosophy, which is almost by definition the least applied discipline in the academy, to modern languages, an essential area in the globalised economy. They include long-established fields such as music and history, and others, such as museum studies and tourism, which are growing as economies transform.

Politicians rarely mention the arts and humanities in speeches on the importance of research to national economic success. The UK has established a research council to fund them only in the past two years. But their importance means they are central to the success of any large university aiming to be good at the full range of academic disciplines. Harvard University is once again top of this table, and is joined by other global universities such as Oxford, Cambridge and Yale universities and the University of California, Berkeley.

> **Every country has its own literature, history, music and politics, but the table shows that the quality of national research in these fields is recognised worldwide**

Strength in the arts and humanities is also a must for universities that aim to be national leaders in political and cultural debate. Hence the appearance of the universities of Toronto, McGill, Tokyo, Peking, the London School of Economics and the Australian National University in prominent positions.

> **Arts and humanities are central to the success of any large university aiming to be good at the full range of academic disciplines**

The fact that 16 nations appear in this top 50 is evidence of the inclusive approach of our peer reviewers. The arts and humanities are perhaps the least globalised subjects of all. Every country has its own literature, history, music and politics. But the table shows that the quality of national research in these fields is recognised worldwide. And some areas of the humanities such as religion have emerged from genteel obscurity to new political and cultural importance in a globalised world with a new awareness of security and international tension.

This table also confirms the world cultural value of English. The top 20 institutions include 19 in the English-speaking world. Peking, in 18th position, is the highest placed institution not to work entirely in English. Some Asian universities are responding by delivering more arts and humanities teaching in English. It may seem strange to teach your own history in a foreign language, but doing so makes it more available to foreign students, while publishing in English makes research more visible. These reforms are likely to affect Asian and continental European universities' future standing in this table.

Martin Ince ★

TOP 50 UNIVERSITIES FOR ARTS & HUMANITIES

		Country	Score
1	Harvard University	US	100.0
2	University of California, Berkeley	US	96.5
3	University of Oxford	UK	94.4
4	University of Cambridge	UK	92.3
5	Yale University	US	84.3
6	Columbia University	US	83.3
7	Princeton University	US	80.1
8	University of Toronto	Canada	79.5
9	University of Chicago	US	77.6
10	Australian National University	Australia	75.9
11	Stanford University	US	74.7
12	McGill University	Canada	71.3
13	University of California, Los Angeles	US	68.4
14	University of British Columbia	Canada	67.2
15	University of Sydney	Australia	66.6
16	Cornell University	US	64.4
17	University of Melbourne	Australia	63.9
18	Peking University	China	61.2
19	University of Michigan	US	60.3
20	Duke University	US	58.6
21=	National University of Singapore	Singapore	57.6
21=	Johns Hopkins University	US	57.6
23	New York University	US	56.7
24	University of Tokyo	Japan	54.7
25	Massachusetts Institute of Technology	US	54.4
26	London School of Economics	UK	54.0
27	University College London	UK	53.9
28	University of Edinburgh	UK	53.5
29	Université Paris-Sorbonne, Paris IV	France	52.5
30	Monash University	Australia	52.1
31	Brown University	US	51.7
32	University of Auckland	New Zealand	51.0
33	Ecole Normale Supérieure, Paris	France	50.9
34	Kyoto University	Japan	50.5
35	University of New South Wales	Australia	49.6
36	King's College London	UK	49.3
37	Trinity College Dublin	Ireland	48.6
38	Freie Universität Berlin	Germany	48.4
39	Hebrew University of Jerusalem	Israel	48.0
40	Leiden University	Netherlands	47.3
41	University of Amsterdam	Netherlands	47.2
42	University of Texas at Austin	US	46.3
43	Katholieke Universiteit Leuven	Belgium	45.7
44	University of Hong Kong	Hong Kong	44.9
45	University of Queensland	Australia	44.0
46	Fudan University	China	43.2
47	University of Bologna	Italy	42.9
48=	School of Oriental and African Studies	UK	41.9
48=	Indiana University Bloomington	US	41.9
50	University of Pennsylvania	US	41.7

Source: QS Quacquarelli Symonds.

Alamy

What the pick of the crop means for the rest of the field

We look at the top performers on each measure and suggest what their success means for the sector's development

The Times Higher-QS World University Rankings are a composite measure in which six criteria are added together to produce an overall table. One measure, peer review, accounts for 40 per cent of the possible score, while two others account for 20 percentage points each, with one worth 10 per cent and the other two worth 5 per cent each.

This division of possible points means it is not possible to achieve a high score in these rankings by being excellent in only one category. But it also means that two universities can obtain similar scores despite having widely differing strengths and weaknesses.

This year's changes in the rankings methodology, explained on page 7, mean that exceptional outlying scores on any measure no longer have a distorting effect on the whole picture. While this is to the good overall, it means that the top performers on any specific measure now tend to bunch at a score of 100 or just below. In the main tables, we show the scores for each measure to the nearest 1 per cent, but here we display one decimal place.

The most significant of our measures is academic peer review. It accounts for 40 per cent of the available score and is the most distinctive feature of our World University Rankings.

This analysis combines the opinions of 5,101 individuals, up from 1,300 in 2004, the first year of our rankings. Although Americans make up only 30 per cent of our sample (see page 7), there is general agreement around the world that the US has the best universities. Berkeley and Harvard, the big two of the US system on the East and West coasts, both have a perfect score on this measure. Also prominent on this measure are Stanford, Yale, Princeton, the Massachusetts Institute of Technology and the University of California, Los Angeles.

However, it is also apparent that academics place Oxford and Cambridge universities on roughly the same rung as their main US rivals. In addition, the effort put into staying level with its US competitors by the University of Toronto, already Canada's top institution, is seen to be paying off in terms of world esteem.

MIT is the only specialist institution to appear in this top ten. This measure groups results in all five areas of academic life that we survey and it is hard to do well here without being visible in all or most of them. Despite its name, MIT operates in most arenas of scholarship.

This part of the rankings is the one where the rise of Asian universities is least apparent, but future years may yet see them get to the top in the opinion of fellow academics around the world.

The second of our measures, the employer review, accounts for only 10 per cent of the possible score but is of burning interest to students and their parents, as well as to universities themselves. This year, 1,471 recruiters of graduates from around the world told us where they like to get their employees. Their response suggests that graduate recruitment genuinely has become a global enterprise.

Although only 32 per cent of this sample is in Europe, these recruiters are overwhelmingly in agreement that the UK is the place to shop for graduates.

They put Cambridge and Oxford universities at the top of the list, with the London School of Economics third and the University of Manchester in fifth place. Manchester's bid to be the north of England's answer to Oxbridge and London already seems to be convincing employers.

Despite this British success, Harvard, MIT and Stanford are also well placed on this measure. Their appearance alongside

Oxbridge and the LSE suggests that employers are a conservative breed

The University of Melbourne emerges by some distance as Asia's favourite institution with recruiters. It remains to be seen what recruiters will make of the novel degree system Melbourne is now introducing.

This table confirms that recruiters like big technology universities such as MIT and Imperial College London.

Two of the measures we use, peer review and citations, are qualitative and quantitative means respectively of seeing who is good at research. The two measures correlate closely. The California Institute of Technology's highly productive research culture puts it top on citations. But this table includes some surprises, such as the appearance of the University of Alabama, although its score on other measures means that it does not appear in our main table of the world's top 200 universities.

This table is unique in these pages for having no UK entries.

While our peer review shows that the US is the world centre for scholarly esteem, our table of international staff demonstrates beyond doubt that Europe and the Asia-Pacific region are the capitals of academic diversity. No US university appears in our top ten for overseas staff or students.

Our look at international staff contains two universities in London, the LSE and the School of Oriental and African Studies, alma maters of choice for future foreign ministers, central bankers and heads of state across the developing world. Universities in Australia, New Zealand and Switzerland also do well on this measure. But the winner in terms of overseas academics per hectare must be Hong Kong, with three universities here, including the top institution, Hong Kong University of Science and Technology.

Perhaps even more than top staff, students have become a prized quarry for institutions around the world. For one thing, universities are free to charge them whatever the market will bear. This table shows that students agree that London is a place to spend at least part of their career, with the city claiming three of the four UK entries. The LSE is the winner among students for the second successive year, with second and third slots also going to UK institutions. Its appeal is not hard to discern. Few future economic and social scientists could resist being at a research-based elite university in the heart of one of the world's most diverse and successful cities, close to many of the world's top financial markets.

Second on this measure is Cranfield University, based on a rural campus north of London. Its areas of expertise include technology and business, both magnets for mobile students.

Western Australia, in the shape of Curtin University of Technology, also appears in both lists, as does the Ecole Polytechnique Fédérale in Lausanne, Switzerland, and other universities in Switzerland and France. Swiss institutions have a large nearby catchment area in France, Germany and Austria, which must make it simpler to bring in overseas students. This may allow them to resist the temptation to switch to the English-language teaching that is now sweeping Asian universities.

US universities might argue that Europe has an inbuilt advantage in this measure. Having many small countries within a short drive of each other is bound to facilitate mobility. The presence of Swiss and French universities here might support this argument, and this is one of the categories in which continental institutions excel. But Soas in London inherently draws its students from around the developing world, and Curtin and RMIT universities appear here despite Australia's distance from other major academic centres.

Students come to university to learn, and the last of our indicators is designed to show whether the institution they arrive at will have anybody for them to learn from. It ranks universities by staff-to-student ratio.

The California Institute of Technology tops this table because it has a tiny student body coexisting with a large and active research-oriented faculty.

But the rest of the data we show suggests that anyone seeking a university where they are going to be well supplied with academic input ought to look beyond the biggest names. Yale and Imperial College London are here from among our overall top table. But so is Ulm University in Germany, despite the poor overall showing of German institutions in these pages.

This is also the only one of six top ten analyses to name a mainland Chinese university, Tsinghua in Beijing. French institutions in Lyon and Paris, which are known more for their teaching than for their research, are also in the top ten here.

Four of this table's top ten — CalTech, Tsinghua, Cranfield and Imperial — are technology-heavy institutions. Such universities may well win out on this measure because class sizes are smaller than in areas such as the humanities.

Despite the success of Yale in this table, this measure is less kind than others to large, general universities such as Harvard and Berkeley. **Martin Ince** ★

"While students and their teachers have been internationally mobile since the Middle Ages, the expectation that academics will spend part of their careers abroad is growing"

TOP 10 PEER REVIEW

2007 rank	2006		Country	Score
1	4	University of California, Berkeley	US	100
2	3	Harvard University	US	100
3	1	University of Cambridge	UK	100
4	5	Stanford University	US	100
5	2	University of Oxford	UK	100
6	6	Massachusetts Institute of Technology	US	100
7	13	Princeton University	US	100
8	10	Yale University	US	100
9	16	University of Toronto	Canada	100
10	19	University of California, Los Angeles	US	99.9

Source: QS Quacquarelli Symonds

TOP 10 EMPLOYER REVIEW

2007 rank	2006 rank		Country	Score
1	6	University of Cambridge	UK	100
2	8	University of Oxford	UK	99.9
3	4	London School of Economics	UK	99.8
4	1	Harvard University	US	99.5
5	31	University of Manchester	UK	99.0
6	2	Massachusetts Institute of Technology	US	98.9
7	3	Stanford University	US	98.9
8	38	Imperial College London	UK	98.9
9	17	Università Commerciale Luigi Bocconi	Italy	98.6
10	42	University of Melbourne	Australia	98.5

Source: QS Quacquarelli Symonds

TOP 10 INTERNATIONAL STAFF

2007	2006	Name	Country	Score
1	11	Hong Kong University of Science & Technol	Hong Kong	100
2	13	Curtin University of Technology	Australia	100
3	2	University of Otago	NZ	100
4	14	Ecole Polytechnique Fédérale de Lausanne	Switzerland	100
5	48	University of Auckland	NZ	100
6	5	University of Hong Kong	Hong Kong	99.9
7	3	London School of Economics	UK	99.9
8	4	ETH Zurich	Switzerland	99.9
9	–	Hong Kong Polytechnic University	Hong Kong	99.9
10	6	National University of Singapore	Singapore	99.8

Source: QS Quacquarelli Symonds

TOP 10 INTERNATIONAL STUDENTS

2007	2006 rank		Country	Score
1	1	London School of Economics	UK	100
2	8	Cranfield University	UK	100
3	2	School of Oriental And African Studies	UK	100
4	13	Sciences Po Paris	France	100
5	4	ESCP-EAP Paris	France	100
6	3	Curtin University of Technology	Australia	100
7	6	RMIT University	Australia	99.9
8	5	Ecole Polytechnique Fédérale de Lausanne	Switzerland	99.9
9	10	Imperial College London	UK	99.7
10	9	University of Geneva	Switzerland	99.5

Source: QS Quacquarelli Symonds

TOP 10 STAFF-TO-STUDENT RATIO

2007	2006 rank		Country	Score
1	26	California Institute of Technology	US	100
2	61	Ecole Normale Supérieure de Lyon	France	100
3	2	Yale University	US	100
4	7	Tsinghua University	China	100
5	30	Ecole Polytechnique	France	100
6	55	Cranfield University	UK	100
7	21	Universität Ulm	Germany	100
8	4	University of Rochester	US	99.9
9	5	Imperial College London	UK	99.9
10	124	University of Colorado	US	99.9

Source: QS Quacquarelli Symonds

TOP 10 CITATIONS PER STAFF MEMBER

2007 rank	2006 rank		Country	Score
1	1	California Institute of Technology	US	100
2	3	Stanford University	US	99.9
3	4	Massachusetts Institute of Technology	US	98.4
4	9	Ecole Normale Supérieure, Paris	France	98.3
5	12	University of Alabama	US	98.2
6	10	Princeton University	US	96.5
7	2	Harvard University	US	95.9
8	13	Johns Hopkins University	US	95.8
9	112	University of Zurich	Switzerland	95.4
10	6	University of California, San Diego	US	95.3

Source: QS Quacquarelli Symonds

www.thes.co.uk