

Turning the tables: Examining the feasibility of an institutional league table based on good research practice

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UQ #1 in Australia in influential Nature Index

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The University of Queensland is the top-ranked institution in Australia in this year's Nature Index of high-quality research outputs.

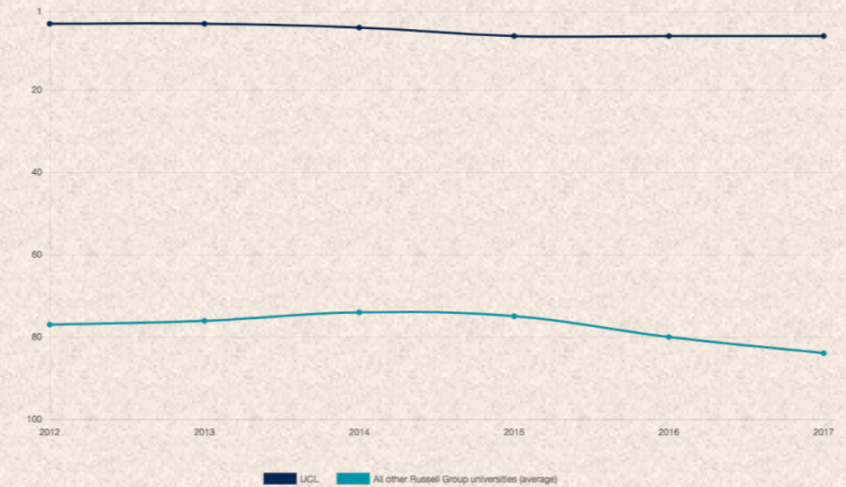
UQ has climbed from third in Australia last year to regain first position on the 2018 Top institutions table.

The University's global position jumped 17 places, to 110 in the world.

nature INDEX
2018
ANNUAL
TABLES



UCL's position in QS World Rankings (2012–17)



Source: QS World University Rankings

Queensland's top university under 50 years old

The *Times Higher Education 150 Under 50* is a ranking of the top 150 universities under 50 years old, showcasing young universities that have achieved great successes in research and teaching. In 2018, we were ranked as Queensland's top university under 50.

“Never get between a Vice-Chancellor and a league table”
Margaret Sheil, VC at QUT



URAP 2017 - 2018 FIELD BASED RANKING BY COUNTRY

COUNTRY	University	World Rank	Article	Citation	Total Docs	Inter Collab	AIT	CIT	Total
Mathematical Sciences									
	Australian National University	77	73.99	75.58	35.74	55.98	64.8	52.4	358.4
	University of New South Wales Sydney	80	80	71.43	39.26	59.01	61.2	47.3	358.2
	University of Melbourne	81	74.7	75.22	36.66	55.85	64.5	51.3	358.2
	University of Adelaide	120	66.03	74.97	31.43	49.98	64.3	57.6	344.3
	University of Sydney	141	73.18	68.89	35.27	54.24	59.1	47	337.6
	Monash University	177	68.7	69.14	32.54	50.58	59.3	48.5	328.8
	University of Queensland	230	67.71	67.17	31.74	48.61	57.6	47.3	320.1
	University of Western Australia	274	64.83	65.9	30.46	48.36	56.5	47	313
	University of Newcastle	332	64.12	63.31	31.6	50.63	54.3	35.4	299.3
	Queensland University of Technology (QUT)	338	58.67	63.3	28.61	46.49	54.3	45.2	296.5
	University of Technology Sydney	369	43.62	63.2	30.05	46.76	54.2	45.1	282.9
	Royal Melbourne Institute of Technology (RMIT)	387	36.38	65.03	22.2	45.84	55.7	47	272.2
	Curtin University	422	57.28	48.16	29.34	48.1	41.2	27.2	251.4
	University of Wollongong	462	44.46	46.3	20.25	45.36	39.7	32.2	228.3
	Macquarie University	565	39.16	26.44	17.75	45.42	22.7	13.6	165.1
	Deakin University	606	11.85	35.27	10.24	31.56	30.3	28.6	147.8
	La Trobe University	727	2.65	20.05	4.08	24.75	17.2	15.8	84.51

Onora O'Neill

“Performance indicators
chosen for ease of
measurement and control
rather than because they
measure accurately what the
quality of performance is”

BBC Reith Lectures 2002



Image source: Wikipedia



Research **quality** over *quantity*

- Leiden Manifesto (2015)
- New metrics should capture “the essence of what it means to be a good scientist” (Lane 2010, *Nature*)
- “If rigorous, innovative studies of significant issues and publication of valid, reproducible results are desired, the best way to achieve those objectives is to explicitly evaluate and reward scientists based on those criteria” (Linder et al 2018, *PLOS ONE*)

EQUATOR

Enhancing the QUALity and Transparency Of health Research

- Counted papers that cited one of the three EQUATOR checklists for:
 - CONSORT – clinical trials
 - STROBE – observational studies
 - PRISMA – systematic reviews
- Citations from *Scopus*
- Articles or Reviews, not Editorials, Corrections, etc
- Fractional count per listed affiliation
- Reward the universities whose researchers **give** the citation, not the universities of researchers who **receive** the citation

Painful standardisation

- **Departments:** “Mansoura University, Urology and Nephrology Center” to “Mansoura University”
- **Locations:** “Massey University, Auckland” to “Massey University”
- **Hospitals:** “Zagazig University Hospitals” to “Zagazig University”
- **Non-Roman letters:** “Universite de Montreal” to “Université de Montréal”
- **Prefixes:** “The University of Sydney” to “University of Sydney”
- **Acronyms,** “UCL” to “University College London”
- **Dual names:** “University of Reykjavik” to “Reykjavik University”

Statistical methods

- Quantified **uncertainty** using a bootstrap
- Looked for similar groups of universities using a **clustering** model

Top ten countries

Rank	Country	2016	2017
1	United States	1,077	1,287
2	China	874	1,072
3	United Kingdom	801	920
4	Australia	555	664
5	Canada	421	496
6	Italy	321	365
7	Netherlands	297	351
8	Brazil	267	345
9	Germany	218	279
10	Denmark (2016) / Spain (2017)	136	194

Top ten universities in 2017

University	N	Score	Probability in top 10	Rank (95% CI)	Cluster
University of Toronto	376	97	1.00	1 (1 to 1)	5
University of Sydney	197	67	1.00	2 (2 to 6)	4
<i>Missing</i>	224	65	1.00	3 (2 to 7)	4
University of Copenhagen	166	60	0.99	5 (2 to 9)	4
University College London	183	58	0.98	5 (2 to 10)	4
West China Hospital of Sichuan University	92	58	0.96	5 (2 to 11)	4
Harvard University	209	52	0.86	8 (4 to 13)	4
King's College London	171	51	0.80	8 (4 to 14)	4
Monash University	133	47	0.53	10 (5 to 16)	3
University of Ottawa	182	47	0.52	10 (6 to 15)	3

Interactive version here: <https://aushsi.shinyapps.io/equator/>

Other good research criteria

- Clear involvement of stakeholders in forming research questions
- Publishing a protocol and ensuring that the results presented match those planned in the protocol
- Publishing the results even when the results are “negative” or potentially commercially damaging
- Making the results accessible in open access
- Openly sharing associated data and code

Research is not sport

Pos	Team [V·T·E]	Pld	W	D	L	GF	GA	GD	Pts
1	Northampton Town (C, P)	46	29	12	5	82	46	+36	99
2	Oxford United (P)	46	24	14	8	84	41	+43	86
3	Bristol Rovers (P)	46	26	7	13	77	46	+31	85
4	Accrington Stanley	46	24	13	9	74	48	+26	85
5	Plymouth Argyle	46	24	9	13	72	46	+26	81
6	Portsmouth	46	21	15	10	75	44	+31	78
7	AFC Wimbledon (O, P)	46	21	12	13	64	50	+14	75
8	Leyton Orient	46	19	12	15	60	61	-1	69
9	Cambridge United	46	18	14	14	66	55	+11	68