

METRICS SURVEY RESULTS

At your institution or department are metrics of scientific performance — measures such as number of publications, citation counts, journal impact factors, *h*-index or other bibliometric calculations — used to any degree in any of the following?

	Hiring decisions	Tenure decisions	Promotion	Salary decisions/ bonuses	Performance reviews/ appraisals	Allocation of research resources (e.g. equipment, lab space)
Yes, they are used	75.3%	68.7%	75.3%	46.0%	69.3%	38.7%
No, they are not used	11.3%	11.3%	17.3%	35.3%	16.7%	41.3%
I don't know	11.3%	12.0%	5.3%	12.7%	11.3%	14.7%
Not applicable	2.0%	8.0%	2.0%	6.0%	2.7%	5.3%

In general, how satisfied are you with the way such metrics are used?

	Percentage	No. of respondents
Very satisfied	2.7%	4
Quite satisfied	22.0%	33
Not very satisfied	36.0%	54
Not satisfied at all	27.3%	41
I don't know enough about them to comment	7.3%	11
Not applicable	4.7%	7

Nature would like to find out what other measures and scientific activities are credited by institutions during performance reviews and decisions on advancement and tenure. Do you think your institution or department places enough emphasis on the following activities? (Questions ranked on a scale of 5-1, where 5 = considerable emphasis and 1 = no emphasis at all.)

	5	4	3	2	1	Not applicable	Average
Grants and income from governmental sources	52.3%	20.1%	12.1%	8.1%	6.0%	1.3%	4.06
No. of publications	43.6%	28.2%	14.1%	6.7%	6.0%	1.3%	3.98
Publication in high-impact journals	43.6%	22.8%	13.4%	8.7%	10.1%	1.3%	3.82
Grants and income from industrial sources	28.2%	21.5%	20.8%	14.8%	8.7%	6.0%	3.49
Grants and income from philanthropic sources	24.2%	24.2%	20.1%	12.8%	12.1%	6.7%	3.38
No. of citations on published research	22.4%	21.1%	17.0%	17.7%	19.7%	2.0%	3.09
Collaborations with industry	16.8%	20.1%	24.2%	18.8%	15.4%	4.7%	3.04
Patents filed	16.3%	15.0%	19.7%	25.9%	15.0%	8.2%	2.91
Teaching courses	14.7%	16.7%	22.7%	24.7%	15.3%	6.0%	2.90
Review of your work by peers outside your department/institution	16.8%	21.5%	17.4%	18.8%	23.5%	2.0%	2.89
Invitations to talk at meetings	10.0%	20.0%	25.3%	24.0%	18.7%	2.0%	2.78
Letters of recommendation from people in your field	18.8%	16.1%	14.8%	16.8%	30.2%	3.4%	2.76
Book writing	6.7%	22.7%	26.7%	21.3%	20.0%	2.7%	2.74
Public exposure in the press	12.0%	19.3%	22.7%	20.7%	24.0%	1.3%	2.74
Training and mentoring students, postdocs and junior faculty	8.7%	20.0%	21.3%	30.0%	16.7%	3.3%	2.73
Departmental/institutional administration	6.0%	16.0%	33.3%	30.0%	12.0%	2.7%	2.73
Collaborative work outside of your department/institution	6.0%	22.8%	28.9%	19.5%	20.8%	2.0%	2.73
Editorship of journals	4.7%	21.3%	29.3%	23.3%	18.7%	2.7%	2.69
Invited reviews, book chapters	5.3%	22.7%	26.7%	21.3%	21.3%	2.7%	2.68
Collaboration/cooperation within your department/institution	4.0%	17.3%	32.7%	20.7%	24.7%	0.7%	2.55
Meeting talks	6.0%	17.4%	24.8%	26.2%	23.5%	2.0%	2.55
Running core facilities	4.0%	17.3%	23.3%	24.7%	23.3%	7.3%	2.50
Development of start-up businesses	8.1%	12.2%	17.6%	28.4%	23.0%	10.8%	2.48
Getting along well with colleagues	6.7%	17.4%	20.8%	22.8%	31.5%	0.7%	2.45
Participation in departmental meetings	6.0%	14.0%	23.3%	22.0%	32.0%	2.7%	2.38
Outreach to non-scientists (e.g. developing public-education programmes/forums)	5.4%	18.9%	15.5%	22.3%	35.8%	2.0%	2.34
Development of research resources (e.g. reagents, software, database development)	4.8%	9.5%	23.1%	28.6%	29.9%	4.1%	2.28
No. of students or postdocs who go on to prestigious jobs	2.7%	11.3%	21.3%	20.7%	35.3%	8.7%	2.18
Grants reviewed	4.0%	8.7%	22.7%	24.0%	36.0%	4.7%	2.17
Meeting abstracts	3.4%	9.4%	21.5%	24.2%	38.3%	3.4%	2.13
Papers reviewed	5.4%	6.0%	23.5%	22.8%	40.3%	2.0%	2.12
No. of times published papers are downloaded	7.4%	6.0%	16.1%	17.4%	49.7%	3.4%	2.01
Blogging, writing for lay press	3.3%	4.0%	19.3%	16.0%	54.0%	3.3%	1.83
Data deposited in public repositories	2.7%	4.8%	12.9%	18.4%	53.7%	7.5%	1.75

Does the way that your institution evaluates your work affect your behaviour? (For example, if your institution counts up your publications, do you focus particularly on publication quantity?)

	Percentage	No. of respondents
Yes	50.7%	76
No	49.3%	74

Thinking about all of the possible measures of scientific contribution that are possible, please select your top 5 priorities.

	No. of times chosen	Relative ranking
Publication in high-impact journals	92	2.61
Grants earned	65	1.73
Training and mentoring students and postdocs	63	1.71
No. of citations on published research	58	1.62
No. of publications	53	1.38
Teaching courses	41	1.18
Collaborative work outside of your department/institution	37	0.97
Development of research resources for the scientific community	31	0.89
Invitations to talk at meetings	29	0.80
Collaboration/cooperation within your department/institution	25	0.66
No. of students or postdocs who go on to prestigious jobs	25	0.63
Getting along well with colleagues	24	0.69
Mentorship of junior faculty	20	0.55
Letters of recommendation from people in your field	18	0.51
Outreach to non-scientists (e.g. developing public-education programmes/forums)	18	0.50
Invited reviews, book chapters	18	0.49
No. of times published papers are downloaded	17	0.44
Collaborations with industry	15	0.38
Editorship of journals	14	0.40
Patents filed	14	0.39
Book writing	12	0.35
Other	11	0.34
Papers reviewed	9	0.25
Meeting talks	9	0.24
Grants reviewed	7	0.17
Public exposure in the press	6	0.18
Grants earned from non-traditional or non-federal sources	6	0.14
Departmental/institutional administration	5	0.16
Development of start-up business	5	0.14
Blogging, writing for lay press	4	0.10
Meeting abstracts	3	0.08
Data deposited in public repositories	3	0.08
Participation in departmental meetings	2	0.05

Are you concerned that individuals can 'game' or 'cheat' the system at your institution?

	Percentage	No. of respondents
Yes	71.3%	107
No	28.7%	43

Where do you live

	Percentage	No. of respondents
United States	28.0%	42
Canada	3.3%	5
Europe	40.7%	61
South America	8.0%	12
Oceania	0.7%	1
Japan	4.0%	6
China	1.3%	2
India	4.7%	7
Other Asia	5.3%	8
Middle East	1.3%	2
Africa	0.0%	0
Other	2.7%	4

Which of the following best describes your area of research?

	Percentage	No. of respondents
Astronomy and planetary science	4.7%	7
Biology	40.0%	60
Chemistry	13.3%	20
Earth and environmental science	7.3%	11
Engineering	6.0%	9
Physics	16.7%	25
Medicine	20.7%	31
Business and investment	0.7%	1
Other	11.3%	17

Which of the following best describes your current job title or profession?

	Percentage	No. of respondents
Postdoctoral fellow	9.3%	14
Graduate student	8.0%	12
Technician	0.0%	0
Research/staff scientist	15.3%	23
Process engineer	0.7%	1
Professor	25.3%	38
Consultant	1.3%	2
Assistant professor	12.7%	19
Principal investigator	8.0%	12
Department head	5.3%	8
Lab/research director	4.0%	6
Librarian/information specialist	0.0%	0
Medical professional/doctor	2.7%	4
President/chief executive/ vice-president/owner	0.0%	0
Business management	0.0%	0
Other type of student	0.0%	0
Other	7.3%	11

In which type of institute do you currently work or study?

	Percentage	No. of respondents
College/university	66.7%	100
Government	16.7%	25
Hospital	3.3%	5
Industry/corporation	1.3%	2
Privately funded research institute	3.3%	5
Consultancy	0.0%	0
Non-profit organization	4.0%	6
Other	3.3%	5
None of these	1.3%	2

How old are you?

	Percentage	No. of respondents
18–24	2.0%	3
25–34	18.0%	27
35–44	28.7%	43
45–54	28.0%	42
55–64	18.7%	28
65+	4.7%	7

For a full discussion of this survey, see the News Feature [‘Do metrics matter?’](#) (*Nature* 465, 860–862; 2010).