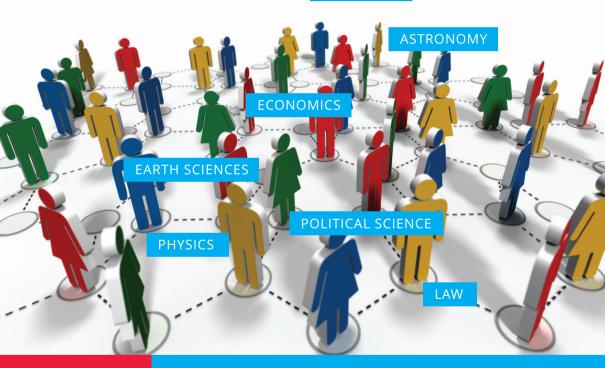


CHEMISTRY



IREG List of International Academic Awards

www.ireg-observatory.org



IREG List of International Academic Awards

www.ireg-observatory.org

The purpose of IREG Observatory on Academic Ranking and Excellence is to strengthen public awareness and understanding of university rankings and their role in reflecting quality of higher education and academic excellence.

From the Statute

Introductory Background

Awards are symbols of recognition (Frey & Neckermann, 2009). They can also have a mobilizing effect. This is why the Académie des Sciences in France introduced in 1719 the annual prize competitions to encourage scientists to find solutions to problems in astronomy and navigation, and the Royal Society of London started to award in 1731 the Copley Medal for outstanding achievements in either physical or biological sciences (Zuckerman, 1992). For nearly three centuries the scientific community and other stakeholders have recognized outstanding scientific achievements through awards and prizes.

"Priority of discovery" is the key reward that motivates the work, commitment and efforts of scientists foremost. While recognizing the relevance of quantitative metrics of scientific output and in the absence of a common set of standards for intellectual and research excellence, it should be pointed out that prizes and awards identify and confirm recognition of academic achievements in a domain covered by the given award and prize – in other words, they can be considered important markers of excellence. Not to mention that awards are one of the ways of affirming attractiveness of research and that "science can have its own kind of glamour."

The critics of prizes and awards will argue that winning certain "big" prizes is contributing to self-validating brilliance. In extreme situations it might lead to corruption of the nature of scientific endeavor. But it needs to be pointed out that cutting-edge and top research is very competitive and subject to the tests of scientific verification and criticism, which sooner or later "catch cheaters" and correct drastic mistakes.

With the fast development of science and technology, as well as the internationalization of scientific activities, international academic awards have been more and more popular and influential. Following the two early awards mentioned above, numerous international academic awards have been established to provide individuals with incentives and motivation for new academic work and to reward past excellent academic accomplishments.

The reference to academic awards can also be found in program assessment. Some 1,390 awards and honors, including research/scholarship awards, teaching awards, prestigious fellowships or memberships in honorary societies, are used for external assessment of quality of doctoral program faculty in the Assessment of Research-Doctorate Programs, which is conducted by the U.S. National Research Council (NRC).

Major prizes and awards are considered a relevant instrument for peer-review-based allocation of research funds (European Peer Review Guide, 2011). Furthermore, some prominent international academic awards, such as the Nobel Prizes, Fields Medal, Lasker Awards, Turing Award, and the Canada Gairdner International Award, are symbolic measures of research performance and trends in "revolutionary" science with the aim of identifying the premier revolutionary science research institutions and nations (Charlton, 2007a, 2007b, 2007c).

It is worth emphasizing that authoritative observers of the way a university works point out that seeking excellence is a term used by universities and other academic institutions to explain what they strive for – branding the university as elitist in an egalitarian society (Gould, 2003).

Arieh Warshel, the Nobel Prize Laureate in Chemistry 2013, Distinguished Professor of Chemistry and Biochemistry at the University of Southern California, recently presented the following persuasive view about role of "awards" in promotion of academic excellence (Warshel, 2014):

"I believe that awards serve as a significant driving force for scientific advances and competition. It is true that many awards decisions are completely political and do not reflect true contributions to science. However, the ambition to obtain an important award keep some people going even if they are disappointed of not being recognized.

Obviously, there must be some unclear interplay between possible cynicisms of seeing that awards are being given to less deserving people and the belief that eventually one effort will be rewarded.

Overall my view is that the main scientific drive is the hope to find something new and significant and that this finding will be attributed to the one who made it. Thus the awards are part of the official recognition in scientific contributions and as such they serve as a motivation force."

The academic awards, especially the high prestige ones, often play a significant role in the performance evaluation of individuals and institutions. Yet, we know little about the value of academic awards and their role in what can be described as "reputation management." The topic is of particular relevance when such awards are taken into consideration in producing academic rankings. For example, the Academic Ranking of World Universities (ARWU) gives 30% weight to institutions whose faculty and staff win the Nobel Prizes and Fields Medals.

Furthermore, while the major academic awards are unquestionably seen as the world's most important honors for outstanding scientific achievement, the limited range of subjects and number of laureates per year means that many major scientific achievements remain unrecognized. Relatively few academic institutions can gather sufficient "Nobel credits" to enable to confirm their standing in the global context of scientific achievements. Evidently, the "landscape" of academic awards is going beyond those covered by this project, for example, those intended to recognize the potential of researchers at the beginning of their scholarly and academic road. While recognizing importance of such "mobilizing" awards, their analysis goes beyond the scope of this project.

In order to establish a comprehensive and balanced mapping of international academic awards and weigh their relative reputations in relation to one another, the IREG Observatory initiated "International Academic Awards" Project. The project was implemented by a team chaired by Nian Cai Liu, Professor and Director of Center for World-Class Universities and Dean of Graduate School of Education at Shanghai Jiao Tong University, Vice-President of IREG Observatory (China). The reputation survey and relevant analytical work were carried out by Jun Tao Zheng, a member of Professor Liu's team.

Overall academic supervision of this project was assured by Jan Sadlak, President of IREG Observatory, and Nian Cai Liu. In the course of the project implementation, significant input was provided by University of Maribor (Slovenia), OST – Observatoire des Sciences et des Techniques (France), and other member organizations of IREG Observatory.

Methodology

PRELIMINARY SELECTION

The first stage of work in this project was to set up the criteria allowing selection of a wide range of international academic awards.

The "international academic awards," as defined in this project, are those established to recognize the academic achievements of internationally renowned individuals who make outstanding contributions to the advancement of knowledge, and generally are granted to individuals without differentiation of gender, race, ethnicity, religion, language, nationality, disability or political affiliation.

Taking into consideration that there is no comprehensive and updated list of international academic awards, the initial list of such awards and prizes was collected from the following sources:

- awards and honors collected by U.S. National Research Council;
- review of relevant websites in Wikipedia;
- analytical work based on available information on various national and international organizations, learned societies, academy of sciences, etc.

Based on the following three criteria, 207 international academic awards were preselected for reputation survey:

- awards for highly recognized academic contribution;
- awards granted without the limitation of the nationality of the nominees, and generally without the differentiation of gender, race, ethnicity, color, religion, language, disability, or political affiliation;
- awards granted by international organizations, central governments, renowned foundations, academic associations, national academies, and learned societies.

Academic awards are generally granted for outstanding achievements in a specific field or subject and are well known to scientists and academics in their respective fields. The 207 international academic awards analyzed in this project were grouped in the following four broad "fields": Life Sciences and Medicine, Natural Sciences, Engineering Sciences, Social Sciences and Humanities, as well as Multidisciplinary Fields. Awards in Multidisciplinary Fields refer to the awards granted in at least two of the above fields. Awards granted in Natural Sciences, Engineering Sciences, and Social Sciences and Humanities are further classified into groups by academic subject. Cross-disciplinary awards refer to those awards granted in at least two of the subjects in a particular field.

REPUTATION SURVEY

An important part of the project is an online reputation survey about International Academic Awards. It was designed to gauge the relative prestige and importance of the preselected international academic awards.

In order to get the reliable and professional responses, reputation surveys were carried out subject by subject. Awards conferred in a particular field were included and listed in the same survey questionnaire, while awards in multidisciplinary fields and cross-disciplinary subjects were included and listed in questionnaires of all the concerned fields or subjects. Survey questionnaires were sent out to respondents by 'Email Collector' of the Survey Monkey, which is the world's most popular online survey software.

The relevant awardees were chosen as respondents of survey questionnaires since they are the most familiar with the status of relevant awards and most qualified to judge awards' reputation . Unless otherwise stated, awardees from 1990 to 2013 inclusive were actually chosen as survey respondents considering the age of the awardees.

Zuckerman (1992) stated that "as the ne plus ultra among awards in science, the Nobel prizes still serve as the gold standard for gauging the visibility, prestige, and affluence of all other awards." IREG Observatory chose the Nobel Prize as the "benchmark award" for this study. Survey respondents were asked to evaluate quantitatively the relative reputation of the preselected awards as compared to the Nobel Prize.

THE IREG LIST

Based on the survey results, all awards with reputation scores equal or higher than 0.50 as compared with the Nobel Prize were included in the IREG List of International Academic Awards. A small number of awards with reputation scores close to 0.50 were also included in the list after a closer analysis of their reputation and the role they play in the given academic discipline. Overall, out of the 207 awards initially selected, 99 international academic awards were included in the IREG List. The distribution of awards in the IREG List is shown in Table 1. Awards in each field and subject and their reputation scores as compared with the Nobel Prize are listed in Tables 2-6.

This list should not be seen as a straightforward "ranking" but foremost as a reliable foundation for benchmarking enabling a better understanding of an important aspect of the way academic excellence is expressed. At the same time it does not preclude that information presented in the list might be periodically checked and modified, and taken into consideration for performance assessment, including academic rankings.

CONTACT

If you have any questions or comments, please contact MyAward@sjtu.edu.cn

TABLE 1.

Distribution of International Academic Awards in the IREG List by Field and Subject

Field and Subject		Number of Awards	Percentage of Awards
Multidisciplinary Fields		6	6.1%
Life Sciences and Medicine		9	9.1%
	Astronomy	6	6.1%
	Chemistry	6	6.1%
Natural Sciences	Earth Sciences	7	7.1%
	Mathematics	9	9.1%
	Physics	8	8.1%
	Cross-disciplinary	5	5.1%
	Chemical Engineering	5	5.1%
	Civil Engineering	3	3.0%
	Electrical and Information Engineering	7	7.1%
Engineering Sciences	Energy Science and Engineering	3	3.0%
	Environmental Science and Engineering	6	6.1%
	Materials Science and Engineering	3	3.0%
	Mechanical Engineering	3	3.0%
	Economics	5	5.1%
Social Sciences	Law	4	4.0%
and Humanities	Political Science	4	4.0%
	Total	99	100.0%

TABLE 2.

IREG List of International Academic Awards in Multidisciplinary Fields

Award Name & Website	Awarding Organization	Reputation Score
Kyoto Prize in Basic Sciences www.inamori-f.or.jp/e_kp_out_out.html	The Inamori Foundation (Japan)	0.66
Japan Prize www.japanprize.jp/en/prize.html	The Japan Prize Foundation	0.66
Albert Einstein World Award of Science www.consejoculturalmundial.org/awards-science.php	World Cultural Council	0.51
King Faisal International Prize in Science www.kff.com/en/King-Faisal-International-Prize	The King Faisal Foundation (Saudi Arabia)	0.50
Max Planck Research Award www.mpg.de/mpResearchAward	Alexander von Humboldt-Stiftung Foundation and the Max Planck Society	0.49
Balzan Prizes www.balzan.org/en/about-us	International Balzan Prize Foundation (Italy)	0.47

TABLE 3.

IREG List of International Academic Awards in Life Sciences and Medicine

	Award Name & Website	Awarding Organization	Reputation Score
	Nobel Prize in Physiology or Medicine www.nobelprize.org	Karolinska Institutet (Sweden)	1.00
	Albert Lasker Basic Medical Research Award www.laskerfoundation.org/awards/index.htm	Albert and Mary Lasker Foundation (United States)	0.72
	The Canada Gairdner International Award www.gairdner.org/content/awards	The Gairdner Foundation (Canada)	0.60
	Lasker-DeBakey Clinical Medical Research Award www.laskerfoundation.org	Albert and Mary Lasker Foundation (United States)	0.60
	The Shaw Prize in Life Science and Medicine www.mpg.de/mpResearchAward	The Shaw Prize Foundation (Hong Kong, China)	0.60
	The Canada Gairdner Global Health Award www.gairdner.org/content/awards	The Gairdner Foundation (Canada)	0.58
	Wolf Prize in Medicine www.wolffund.org.il	Wolf Foundation (Israel)	0.56
	The Kavli Prize in Neuroscience www.gairdner.org/content/awards	The Norwegian Academy of Science and Letters	0.55
	Crafoord Prize in Biosciences www.crafoordprize.se	The Royal Swedish Academy of Sciences	0.52

stronomy

TABLE 4.1.

IREG List of International Academic Awards in Natural Sciences
(A) ASTRONOMY

Award Name & Website	Awarding Organization	Reputation Score
Crafoord Prize in Astronomy www.crafoordprize.se	The Royal Swedish Academy of Sciences	0.77
The Kavli Prize in Astrophysics www.kavliprize.org	The Norwegian Academy of Science and Letters	0.72
The Shaw Prize in Astronomy www.shawprize.org/en/	The Shaw Prize Foundation (Hong Kong, China)	0.70
The Gold Medal for Astronomy www.ras.org.uk/awards-and-grants	Royal Astronomical Society (United Kingdom)	0.64
The Bruce Medal www.phys-astro.sonoma.edu/BruceMedalists	Astronomical Society of the Pacific (United States)	0.58
Dannie Heineman Prize for Astrophysics https://aas.org/about/grants-and-prizes/dannie-heineman-p	American Institute of Physics and American Astronomical Society rize-astrophysics	0.52

TABLE 4.2.

IREG List of International Academic Awards in Natural Sciences
(B) CHEMISTRY

Award Name & Website	Awarding Organization	Reputation Score
Nobel Prize in Chemistry www.nobelprize.org	The Royal Swedish Academy of Sciences	1.00
Wolf Prize in Chemistry www.wolffund.org.il	Wolf Foundation (Israel)	0.74
Priestley Medal http://www.acs.org/content/acs/en/funding-and-awards/aw	American Chemical Society vards/national/bytopic/priestley-medal.html	0.68
Welch Award in Chemistry www.welch1.org/awards/	The Welch Foundation (United States)	0.60
NAS Award in Chemical Sciences www.nasonline.org/about-nas/awards/chemical-sciences	National Academy of Sciences (United States) ences.html	0.52
Faraday Lectureship Prize www.rsc.org/awards-funding/awards	Royal Society of Chemistry (<i>United Kingdom</i>)	0.51

eartch sciences

TABLE 4.3.

IREG List of International Academic Awards in Natural Sciences (Continued)

(C) EARTH SCIENCES

Award Name & Website	Awarding Organization	Reputation Score
Crafoord Prize in Geosciences www.crafoordprize.se/	The Royal Swedish Academy of Sciences	0.85
Wollaston Medal www.geolsoc.org.uk/About/Awards-Grants-and-Bursarie	The Geological Society of London rs/Society-Awards/Wollaston-Medal	0.66
The Shaw Prize in Astronomy www.shawprize.org/en/	Royal Astronomical Society (United Kingdom)	0.65
The Gold Medal for Geophysics www.ras.org.uk/awards-and-grants	Royal Astronomical Society (United Kingdom)	0.64
Penrose Medal www.geosociety.org/awards/aboutAwards.htm#penrose	Geological Society of America	0.64
The Vetlesen Prize www.ldeo.columbia.edu/vetlesen-prize/	Columbia University's Lamont-Doherty Earth Observatory (United States)	0.62
Arthur L. Day Prize and Lectureship www.nasonline.org/about-nas/awards/arthur-l-day-prize.html	National Academy of Sciences (United States)	0.57
Arthur L. Day Medal www.geosociety.org/awards/aboutAwards.htm#da	Geological Society of America	0.56

TABLE 4.4.

IREG List of International Academic Awards in Natural Sciences
(D) MATHEMATICS

Award Name & Website	Awarding Organization	Reputation Score
The Abel Prize www.abelprize.no	The Norwegian Academy of Science and Letters	0.97
Fields Medal www.mathunion.org/general/prizes	International Mathematical Union	0.95
Wolf Prize in Mathematics www.wolffund.org.il	Wolf Foundation (Israel)	0.84
Crafoord Prize in Mathematics www.crafoordprize.se	The Royal Swedish Academy of Sciences	0.78
The Shaw Prize in Mathematical Sciences www.shawprize.org/en	The Shaw Prize Foundation (Hong Kong, China)	0.77
Rolf Nevanlinna Prize www.mathunion.org/general/prizes	International Mathematical Union	0.75
NAS Award in Mathematics www.nasonline.org/about-nas/awards/mathematics.html	National Academy of Sciences (United States)	0.53
Rolf Schock Prize in Mathematics www.rolfschockprizes.se	The Royal Swedish Academy of Sciences	0.52
Bôcher Memorial Prize www.ams.org/profession/prizes-awards/ams-prizes/bocher-pri	American Mathematical Society	0.50

TABLE 4.5.

IREG List of International Academic Awards in Natural Sciences (Continued)

(E) PHYSICS

Award Name & Website	Awarding Organization	Reputation Score
Nobel Prize in Physics www.nobelprize.org/	The Royal Swedish Academy of Sciences	1.00
Wolf Prize in Physics www.wolffund.org.il	Wolf Foundation (Israel)	0.72
Isaac Newton Medal www.iop.org/about/awards/newton/page_38399.html	Institute of Physics (United Kingdom)	0.57
Max Planck Medal www.dpg-physik.de/preise/preistraeger_mp.html	German Physical Society	0.56
Breakthrough Prize in Fundamental Physics https://breakthroughprize.org	The Fundamental Physics Prize Foundation (United States)	0.55
Dannie Heineman Prize for Mathematical Physics www.aps.org/programs/honors/prizes/heineman.cfm	American Physical Society & American Institute of Physics	0.54
Lorentz Medal www.knaw.nl/en/awards/prijzen/lorentzmedaille	The Royal Netherlands Academy of Arts and Sciences	0.54
Henri Poincaré Prize www.iamp.org/page.php?page=page_prize_poincare	International Association of Mathematical Physics	0.50

TABLE 5.1.

IREG List of International Academic Awards in Engineering Sciences
(A) CROSS-DISCIPLINARY

Award Name & Website	Awarding Organization	Reputation Score
Kyoto Prize in Advanced Technology www.inamori-f.or.jp/e_kp_out_out.html	The Inamori Foundation (Japan)	0.63
The Kavli Prize in Nanoscience www.kavliprize.org	The Norwegian Academy of Science and Letters	0.62
Charles Stark Draper Prize www.draperprize.org	National Academy of Engineering (United States)	0.56
Queen Elizabeth Prize for Engineering http://qeprize.org/	The Queen Elizabeth Prize for Engineering Foundation (United Kingdom)	0.51
Millennium Technology Prize http://taf.fi/en/millennium-technology-prize/	Technology Academy Finland	0.50

TABLE 5.2.

IREG List of International Academic Awards in Engineering Sciences
(B) CHEMICAL ENGINEERING

Award Name & Website	Awarding Organization	Reputation Score
R.H. Wilhelm Award in Chemical Reaction Engineering www.aiche.org/community/awards/rh-wilhelm-award-chemic	American Institute of Chemical Engineers cal-reaction-engineering	0.56
Alpha Chi Sigma Award for Chemical Engineering Research www.aiche.org/community/awards/alpha-chi-sigma-c	American Institute of Chemical Engineers ward-chemical-engineering-research	0.54
Founders Award for Outstanding Contributions to the Field of Chemical Engineering www.aiche.org/community/awards/founders-award-outstand	American Institute of Chemical Engineers ling-contributions-field-chemical-engineering	0.52
Professional Progress Award in Chemical Engineering http://www.aiche.org/community/awards/professional-progre	American Institute of Chemical Engineers ess-chemical-engineering	0.50
Jacques Villermaux Medal www.efce.info/JacquesVillermauxMedal.html	European Federation of Chemical Engineering, EFCE	0.50

civil engineering

TABLE 5.3. IREG List of International Academic Awards in Engineering Sciences (C) CIVIL ENGINEERING

Award Name & Website	Awarding Organization	Reputation Score
Freyssinet Medal www.fib-international.org/awards	The International Federation for Structural Concrete, fib	0.50
International Award of Merit in Structural Engineering www.iabse.org/IABSE/IABSE_Association/Awards	International Association for Bridge and Structural Engineering, IABSE	0.50
IABSE Prize www.iabse.org/IABSE/IABSE_Association/Awards	International Association for Bridge and Structural Engineering, IABSE	0.46

TABLE 5.4.

IREG List of International Academic Awards in Engineering Sciences
(D) ELECTRICAL AND INFORMATION ENGINEERING

A. M. Turing Award http://amturing.acm.org/ Association for Computing Machinery (United States) 0.82 IEEE Medal of Honor www.ieee.org/about/awards/medals-nominations Institute of Electrical and Electronics Engineers, IEEE (United States) IEEE Edison Medal www.ieee.org/about/awards/medals/edison.html Institute of Electrical and Electronics Engineers, IEEE (United States) The Okawa Prize www.okawa-foundation.or.jp/en/activities/prize/ The Okawa Foundation (Japan) The Knuth Prize www.sigact.org/Prizes/Knuth/ ACM Special Interest Group on Algorithms and Computation Theory and the IEEE Technical Committee on the Mathematical Foundations of Computing (United States) 0.55 Royal Society Milner Award https://royalsociety.org/awards/milner-award/ The Royal Society (United Kingdom) 0.50		Award Name & Website	Awarding Organization	Reputation Score
Benjamin Franklin Medal in Electrical Engineering www.fi.edu/benjamin-franklin-medals-nominations IEEE Edison Medal www.ieee.org/about/awards/medals/edison.html Institute of Electrical and Electronics Engineers, IEEE (United States) The Okawa Prize The Okawa Foundation (Japan) The Knuth Prize ACM Special Interest Group on Algorithms and Computation Theory and the IEEE Technical Committee on the Mathematical Foundations of Computing (United States) Royal Society Milner Award The Royal Society Milner Award The Royal Society Milner Award Pranklin Institute (United States) Institute of Electrical and Electronics Engineers, IEEE (United States) O.58 ACM Special Interest Group on Algorithms and Computation Theory and the IEEE Technical Committee on the Mathematical Foundations of Computing (United States)				0.82
in Electrical Engineering www.fi.edu/benjamin-franklin-medals-nominations IEEE Edison Medal www.ieee.org/about/awards/medals/edison.html Institute of Electrical and Electronics Engineers, IEEE (United States) The Okawa Prize www.okawa-foundation.or.jp/en/activities/prize/ The Okawa Foundation (Japan) The Knuth Prize www.sigact.org/Prizes/Knuth/ ACM Special Interest Group on Algorithms and Computation Theory and the IEEE Technical Committee on the Mathematical Foundations of Computing (United States) Royal Society Milner Award The Royal Society 0.55				0.68
mww.ieee.org/about/awards/medals/edison.html and Electronics Engineers, IEEE (United States) The Okawa Prize www.okawa-foundation.or.jp/en/activities/prize/ The Okawa Foundation (Japan) The Knuth Prize www.sigact.org/Prizes/Knuth/ ACM Special Interest Group on Algorithms and Computation Theory and the IEEE Technical Committee on the Mathematical Foundations of Computing (United States) Royal Society Milner Award The Royal Society 0.55		in Electrical Engineering		0.58
The Knuth Prize ACM Special Interest Group on Algorithms and Computation Theory and the IEEE Technical Committee on the Mathematical Foundations of Computing (United States) **Royal Society Milner Award **The Knuth Prize ACM Special Interest Group on Algorithms and Computation Theory and the IEEE Technical Committee on the Mathematical Foundations of Computing (United States) **Royal Society Milner Award** **The Royal Society** **O.55** **O.50** **O.5			and Electronics Engineers,	0.58
www.sigact.org/Prizes/Knuth/ on Algorithms and Computation Theory and the IEEE Technical Committee on the Mathematical Foundations of Computing (United States) Royal Society Milner Award The Royal Society 0.50				0.55
			on Algorithms and Computation Theory and the IEEE Technical Committee on the Mathematical Foundations of Computing	0.55
				0.50

TABLE 5.5.

IREG List of International Academic Awards in Engineering Sciences
(E) ENERGY SCIENCE AND ENGINEERING

Award Name & Website	Awarding Organization	Reputation Score
Eni Award www.eni.com/eni-award/eng/home.shtml	Eni S.p.a.(Italy)	0.55
The Enrico Fermi Award www.iabse.org/IABSE/IABSE_Association/Awards	U.S. Department of Energy's Office of Science	0.53
The Global Energy Prize www.globalenergyprize.org/en/	The Global Energy Non-Profit Partnership (<i>Russia</i>)	0.48

TABLE 5.6. IREG List of International Academic Awards in Engineering Sciences (F) ENVIRONMENTAL SCIENCE AND ENGINEERING

Award Name & Website	Awarding Organization	Reputation Score
Tyler Prize for Environmental Achievement http://tylerprize.usc.edu/	The University of Southern California (<i>United States</i>)	0.75
Volvo Environment Prize www.environment-prize.com	The Volvo Environment Prize Foundation (Sweden)	0.72
Stockholm Water Prize www.siwi.org/prizes/stockholmwaterprize/	Stockholm International Water Institute (Sweden)	0.69
BBVA Foundation Frontiers of Knowledge Award in Ecology and Conservation Biology www.fbbva.es/TLFU/tlfu/ing/microsites/premios/fronteras/b	BBVA Foundation (Spain) ases/index.jsp	0.61
BBVA Foundation Frontiers of Knowledge Award in Climate Change www.fbbva.es/TLFU/tlfu/ing/microsites/premios/fronteras/b	BBVA Foundation (Spain) ases/index.jsp	0.59
Heineken Prize for Environmental Sciences www.knaw.nl/en/awards/prijzen/heinekenprijzen	The Royal Netherlands Academy of Arts and Sciences	0.55

TABLE 5.7.

IREG List of International Academic Awards in Engineering Sciences
(G) MATERIALS SCIENCE AND ENGINEERING

Award Name & Website	Awarding Organization	Reputation Score
Von Hippel Award www.mrs.org/vonhippel	Materials Research Society, MRS (United States)	0.68
MRS Medal Award www.mrs.org/medal	Materials Research Society	0.61
David Turnbull Lectureship www.mrs.org/turnbull	Materials Research Society	0.53

TABLE 5.8.

IREG List of International Academic Awards in Engineering Sciences

(H) MECHANICAL ENGINEERING

Award Name & Website	Awarding Organization	Reputation Score
ASME Medal www.asme.org/about-asme/get-involved/honors-awards/ac	American Society of Mechanical Engineers, ASME Chievement-awards/asme-medal	0.59
Timoshenko Medal www.asme.org/about-asme/get-involved/honors-awa	American Society of Mechanical Engineers, ASME ards/achievement-awards/timoshenko-medal	0.59
Benjamin Franklin Medal in Mechanical Engineering www.fi.edu/benjamin-franklin-medals-nominations	Franklin Institute (United States)	0.50

economics

TABLE 6.1.

IREG List of International Academic Awards in Social Sciences and Humanities

(A) ECONOMICS

Award Name & Website	Awarding Organization	Reputation Score
The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel www.nobelprize.org	The Royal Swedish Academy of Sciences	1.00
The Erwin Plein Nemmers Prize in Economics www.nemmers.northwestern.edu/economics.html	Northwestern University (United States)	0.52
The Deutsche Bank Prize in Financial Economics www.ifk-cfs.de/dbprize.html	Center for Financial Studies and Goethe University Frankfurt	0.48
Yrjö Jahnsson Award www.eeassoc.org/index.php?page=25	European Economic Association	0.48
BBVA Foundation Frontiers of Knowledge Award in Economics, Finance and Management www.fbbva.es/TLFU/tlfu/ing/microsites/premios/fronteras/base	BBVA Foundation es/index.jsp	0.44

TABLE 6.2.

IREG List of International Academic Awards in Social Sciences and Humanities
(B) LAW

Award Name & Website	Awarding Organization	Reputation Score
The Stockholm Prize in Criminology www.su.se/english/about/prizes-awards/the-stockholm-prize-	Stockholm University (Sweden) -in-criminology/about-the-prize/about-the-prize-1.95235	0.75
Edwin H. Sutherland Award www.asc41.com/awards/awardWinners.html#ehsa	American Society of Criminology	0.68
European Criminology Award www.esc-eurocrim.org/news040211a.shtml	European Society of Criminology	0.63
August Vollmer Award www.asc41.com/awards/awardWinners.html#ava	American Society of Criminology	0.50

political science

TABLE 6.3.

IREG List of International Academic Awards in Social Sciences and Humanities

(C) POLITICAL SCIENCE

Award Name & Website	Awarding Organization	Reputation Score
The Johan Skytte Prize in Political Science http://skytteprize.statsvet.uu.se	Johan Skytte Foundation at Uppsala University (Sweden)	0.61
The Stein Rokkan Prize for Comparative Social Science Research www.worldsocialscience.org/activities/scientific-pri.	International Social Science Council, the University of Bergen and the European Consortium for Political Research zes/stein-rokkan	0.54
Karl Deutsch Award of International Political Science Association www.ipsa.org/awards/karl-deutsch	International Political Science Association	0.48
ECPR Lifetime Achievement Award www.ecpr.eu/prizes/PrizeDetails.aspx?PrizeID=8	European Consortium for Political Research,ECPR	0.47

References

- Charlton, B. G. (2007a). Measuring Revolutionary Biomedical Science 1992-2006
 Using Nobel Prizes, Lasker (clinical medicine) Awards and Gairdner Awards (NLG metric). Medical Hypotheses, 69(1), 1-5.
- Charlton, B. G. (2007b). Scientometric Identification of Elite 'Revolutionary Science' Research Institutions by Analysis of Trends in Nobel Prizes 1947-2006. Medical Hypotheses, 68(5), 931-934.
- Charlton, B. G. (2007c). Which Are the Best Nations and Institutions for Revolutionary Science 1987-2006? Analysis Using a Combined Metric of Nobel prizes, Fields Medals, Lasker Awards and Turing Awards (NFLT metric). Medical Hypotheses, 68(6), 1191-1194.
- European Science Foundation (2011). European Peer Review Guide. http://www.esf.org/fileadmin/Public_documents/Publications/European_Peer_Review Guide 01.pdf
- Frey, B. S., & Neckermann, S. (2009). Awards: A Disregarded Source of Motivation. In M. Baurmann & B. Lahno (Eds.), Perspectives in Moral Science (pp. 177–182). Frankfurt am Main: Frankfurt School Verlag. Retrieved from http://www.rmm-journal.de/downloads/012_frey_neckermann.pdf
- Gould, E. (2003). The University in A Coroporate Culture. New Heaven and London: Yale University Press.
- Warshel, A. (2014). Role of "awards" in promotion of academic excellence [personal message to Jan Sadlak].
- Zuckerman, H. (1992). The Proliferation of Prizes: Nobel Complements and Nobel Surrogates in the Reward System of Science. Theoretical Medicine and Bioethics 13(2), 217-231.

CONTENTS

• Introductory Background	5
Methodology	6
■ The IREG List	8
■ Table 1. Distribution of International Academic Awards in the IREG List	
by Field and Subject	9
■ Table 2. IREG List of International Academic Awards in Multidisciplinary Fie	
■ Table 3. IREG List of International Academic Awards in Life Sciences	
and Medicine	11
■ Table 4. IREG List of International Academic Awards in Natural Sciences	
a) Astronomy	12
b) Chemistry	
c) Earth Sciences	
d) Mathematics	
e) Physics	
, ,	
■ Table 5. IREG List of International Academic Awards in Engineering Science	25
a) Cross-disciplinary	
b) Chemical Engineering	
c) Civil Engineering	
d) Electrical and Information Engineering	
e) Energy Science and Engineering	
f) Environmental Science and Engineering	
g) Materials Science and Engineering	
h) Mechanical Engineering	
,	
■ Table 6. IREG List of International Academic Awards in Social Sciences	
and Humanities	
a) Economics	24
b) Law	
c) Political Science	



IREG Guidelines for Stakeholders of Academic Rankings

The Guidelines are intended to give users of rankings a trustworthy tool and provide recommendations for interpretation, use and application of rankings by interested parties such as students, parents, universities, media, employers and policy makers.

IREG Inventory of National Rankings

National university rankings play increasing role as a barometer of quality of higher education institutions. The purpose of the Inventory is to collect and make available information on the current state and scope of this important group of rankings.

• IREG List of International Academic Awards

Awards serve as a significant driving force for scientific advances and competition. The IREG List is a catalogue of academic awards with highest international prestige and significance.

IREG Ranking Audit

IREG Ranking Audit, conducted by independent experts, verifies if a ranking is done professionally,



has transparent methodology and responds to the needs of stakeholders: students, higher education institutions, employers and policy makers.

www.ireg-observatory.org

IREG Observatory on Academic Ranking and Excellence

Rue Washington 40, 1050 Brussels, Belgium

Secretariat of IREG Observatory 31 Nowogrodzka, 00511 Warsaw, Poland secretariat@ireg-observatory.org