

# *San Francisco Declaration on Research Assessment*

## Putting science into the assessment of research

---

There is a pressing need to improve the ways in which the output of scientific research is evaluated by funding agencies, academic institutions, and other parties.

To address this issue, a group of editors and publishers of scholarly journals met during the Annual Meeting of The American Society for Cell Biology (ASCB) in San Francisco, CA, on December 16, 2012. The group developed a set of recommendations, referred to as the *San Francisco Declaration on Research Assessment*. We invite interested parties across all scientific disciplines to indicate their support by adding their names to this Declaration.

The outputs from scientific research are many and varied, including: research articles reporting new knowledge, data, reagents, and software; intellectual property; and highly trained young scientists. Funding agencies, institutions that employ scientists, and scientists themselves, all have a desire, and need, to assess the quality and impact of scientific outputs. It is thus imperative that scientific output is measured accurately and evaluated wisely.

The Journal Impact Factor is frequently used as the primary parameter with which to compare the scientific output of individuals and institutions. The Journal Impact Factor, as calculated by Thomson Reuters, was originally created as a tool to help librarians identify journals to purchase, not as a measure of the scientific quality of research in an article. With that in mind, it is critical to understand that the Journal Impact Factor has a number of well-documented deficiencies as a tool for research assessment. These limitations include: A) citation distributions within journals are highly skewed [1–3]; B) the properties of the Journal Impact Factor are field-specific: it is a composite of multiple, highly diverse article types, including primary research papers and reviews [1, 4]; C) Journal Impact Factors can be manipulated (or “gamed”) by editorial policy [5]; and D) data used to calculate the Journal Impact Factors are neither transparent nor openly available to the public [4, 6, 7].

Below we make a number of recommendations for improving the way in which the quality of research output is evaluated. Outputs other than research articles will grow in importance in assessing research effectiveness in the future, but the peer-reviewed research paper will remain a central research output that informs research assessment. Our recommendations therefore focus primarily on practices relating to research articles published in peer-reviewed journals but can and should be extended by recognizing additional products, such as datasets, as important research outputs. These recommendations are aimed at funding agencies, academic institutions, journals, organizations that supply metrics, and individual researchers.

A number of themes run through these recommendations:

- the need to eliminate the use of journal-based metrics, such as Journal Impact Factors, in funding, appointment, and promotion considerations;
- the need to assess research on its own merits rather than on the basis of the journal in which the research is published; and

- the need to capitalize on the opportunities provided by online publication (such as relaxing unnecessary limits on the number of words, figures, and references in articles, and exploring new indicators of significance and impact).

We recognize that many funding agencies, institutions, publishers, and researchers are already encouraging improved practices in research assessment. Such steps are beginning to increase the momentum toward more sophisticated and meaningful approaches to research evaluation that can now be built upon and adopted by all of the key constituencies involved.

The signatories of the *San Francisco Declaration on Research Assessment* support the adoption of the following practices in research assessment.

### **General Recommendation**

1. Do not use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles, to assess an individual scientist's contributions, or in hiring, promotion, or funding decisions.

### **For funding agencies**

2. Be explicit about the criteria used in evaluating the scientific productivity of grant applicants and clearly highlight, especially for early-stage investigators, that the scientific content of a paper is much more important than publication metrics or the identity of the journal in which it was published.
3. For the purposes of research assessment, consider the value and impact of all research outputs (including datasets and software) in addition to research publications, and consider a broad range of impact measures including qualitative indicators of research impact, such as influence on policy and practice.

### **For institutions**

4. Be explicit about the criteria used to reach hiring, tenure, and promotion decisions, clearly highlighting, especially for early-stage investigators, that the scientific content of a paper is much more important than publication metrics or the identity of the journal in which it was published.
5. For the purposes of research assessment, consider the value and impact of all research outputs (including datasets and software) in addition to research publications, and consider a broad range of impact measures including qualitative indicators of research impact, such as influence on policy and practice.

### **For publishers**

6. Greatly reduce emphasis on the journal impact factor as a promotional tool, ideally by ceasing to promote the impact factor or by presenting the metric in the context of a variety of journal-based metrics (e.g., 5-year impact factor, EigenFactor [8], SCImago [9], *h*-index, editorial and publication times, etc.) that provide a richer view of journal performance.
7. Make available a range of article-level metrics to encourage a shift toward assessment based on the scientific content of an article rather than publication metrics of the journal in which it was published.
8. Encourage responsible authorship practices and the provision of information about the specific contributions of each author.

9. Whether a journal is open-access or subscription-based, remove all reuse limitations on reference lists in research articles and make them available under the Creative Commons Public Domain Dedication [10].
10. Remove or reduce the constraints on the number of references in research articles, and, where appropriate, mandate the citation of primary literature in favor of reviews in order to give credit to the group(s) who first reported a finding.

#### ***For organizations that supply metrics***

11. Be open and transparent by providing data and methods used to calculate all metrics.
12. Provide the data under a licence that allows unrestricted reuse, and provide computational access to data, where possible.
13. Be clear that inappropriate manipulation of metrics will not be tolerated; be explicit about what constitutes inappropriate manipulation and what measures will be taken to combat this.
14. Account for the variation in article types (e.g., reviews versus research articles), and in different subject areas when metrics are used, aggregated, or compared.

#### ***For researchers***

15. When involved in committees making decisions about funding, hiring, tenure, or promotion, make assessments based on scientific content rather than publication metrics.
16. Wherever appropriate, cite primary literature in which observations are first reported rather than reviews in order to give credit where credit is due.
17. Use a range of article metrics and indicators on personal/supporting statements, as evidence of the impact of individual published articles and other research outputs [11].
18. Challenge research assessment practices that rely inappropriately on Journal Impact Factors and promote and teach best practice that focuses on the value and influence of specific research outputs.

#### **References**

1. Adler, R., Ewing, J., and Taylor, P. (2008) Citation statistics. A report from the International Mathematical Union.  
[www.mathunion.org/publications/report/citationstatistics0](http://www.mathunion.org/publications/report/citationstatistics0)
2. Seglen, P.O. (1997) Why the impact factor of journals should not be used for evaluating research. *BMJ* 314, 498–502.
3. Editorial (2005). Not so deep impact. *Nature* 435, 1003–1004.
4. Vanclay, J.K. (2012) Impact Factor: Outdated artefact or stepping-stone to journal certification. *Scientometric* 92, 211–238.
5. The PLoS Medicine Editors (2006). The impact factor game. *PLoS Med* 3(6): e291 doi:10.1371/journal.pmed.0030291.
6. Rossner, M., Van Epps, H., Hill, E. (2007). Show me the data. *J. Cell Biol.* 179,

1091–1092.

7. Rossner M., Van Epps H., and Hill E. (2008). Irreproducible results: A response to Thomson Scientific. *J. Cell Biol.* 180, 254–255.

8. <http://www.eigenfactor.org/>

9. <http://www.scimagojr.com/>

10. <http://opencitations.wordpress.com/2013/01/03/open-letter-to-publishers>

11. <http://altmetrics.org/tools/>

## List of Original Signers (Individuals)

- 1 Euan Adie Altmetric LLP
- 2 Elizabeth M. Adler Executive Editor, *The Journal of General Physiology*
- 3 Sharon Ahmad Executive Editor, *Journal of Cell Science*
- 4 Kurt H. Albertine Editor-in-Chief, *The Anatomical Record*
- 5 Bruce Alberts Editor-in-Chief, *Science*
- 6 José M. Amigó Professor Emeritus, Unity of Crystallography and Mineralogy, Department of Geology, University of Valencia, Spain
- 7 Parker Antin Editor-in Chief, *Developmental Dynamics*
- 8 Simeon Arseniyadis Research Director, CNRS-France
- 9 Detlef Axmann Professor, Department of Prosthodontics and Medical Materials, Eberhard-Karls-University, Germany
- 10 Tonci Balic-Zunic Associate Professor in Mineralogy and leader of the Crystallography & Mineralogy Group, Natural History Museum, University of Copenhagen, Denmark
- 11 Joel Bernstein Professor, Department of Chemistry, New York University Abu Dhabi, United Arab Emirates
- 12 Stefano Bertuzzi Executive Director, American Society for Cell Biology
- 13 Ted Bianco Acting Director, Wellcome Trust
- 14 Joël Bockaert Professor, University of Montpellier 1, France; Member, Académie des Sciences
- 15 Elena Boldyreva Novosibirsk State University, Institute of Solid State Chemistry and Mechanochemistry, Siberian Branch of Russian Academy of Sciences
- 16 David Botstein Founding Editor-in-Chief of *Molecular Biology of the Cell*; Director Lewis-Sigler Institute for Integrative Genomics, Princeton University
- 17 Nouzha Bouhmaida Professor, Laboratoire Sciences Des Matériaux, Faculté Des Sciences, Marrakech, Morocco
- 18 Roque J. Calvo Executive Director, ECS – The Electrochemical Society
- 19 Michael Caplan Professor and Chair, Dept. of Cellular and Molecular Physiology, Yale University
- 20 Julio E. Celis Editor-in-Chief, *Molecular Oncology*
- 21 Martin Černohorský Rector emeritus, Silesian University in Opava; Professor emeritus, Masaryk University, Brno, Czech Republic
- 22 Vicki Chandler Gordon and Betty Moore Foundation
- 23 Daniel Choquet Research Director, CNRS; Director of the Interdisciplinary Institute for Neuroscience; Director of the Bordeaux Imaging Center; Member of the Academy
- 24 Don Cleveland President, American Society for Cell Biology; Distinguished Professor and Chair, Dept. of Cellular and Molecular Medicine, Univ. of California, San Diego
- 25 Françoise Combes Observatoire de Paris and Academie des Sciences
- 26 Paul Courant Harold T. Shapiro Professor of Public Policy, University of Michigan
- 27 Brendan Crabb President, Association of Australian Medical Research Institutes; Director, The Burnet Institute, Melbourne
- 28 Ana Maria Cuervo co-Editor-in-Chief of *Aging Cell*; Professor, Albert Einstein College of Medicine
- 29 Stephen Curry Professor and Chair, Department of Life Sciences, Imperial College, London
- 30 Antonella De Matteis Telethon Institute of Genetics and Medicine
- 31 Tracey DePellegrin Executive Editor, *GENETICS* and *G3: Genes/Genomes/Genetics*
- 32 Michel Desarménien Research Director, CNRS-France
- 33 Danny Dolev Scientific Council, ERC; School of Engineering and Computer Science, The Hebrew University of Jerusalem
- 34 Athene M. Donald Cavendish Laboratory, Cambridge, UK
- 35 David Drubin Editor-in-Chief, *Molecular Biology of the Cell*; Professor, University of California, Berkeley
- 36 Barbara Ensoli Director, National AIDS Center
- 37 Wolfgang Eppenschwandtner Executive Coordinator, Initiative for Science in Europe (ISE)
- 38 Daniel Esteve Quantronics group, SPEC-CEA Saclay

- 39 Pavel Exner Scientific Director, Doppler Institute for Mathematical Physics and Applied Mathematics Prague, Czech Republic
- 40 Adam P. Fagen Executive Director, Genetics Society of America
- 41 Sir Alan Fersht, FRS Associate Editor, *PNAS*
- 42 László Fésüs Chairman of Publications Committee, Federation of European Biochemical Societies
- 43 Marty Frank Executive Director, The American Physiological Society
- 44 Toni Gabaldón Centre for Genomic Regulation, Barcelona, Spain
- 45 Santiago Garcia-Granda Professor, Physical Chemistry, University of Oviedo; Immediate Past-President, European Crystallographic Association
- 46 Juan Manuel García-Ruiz Research Professor at the Consejo Superior de Investigaciones Científicas and University of Granada
- 47 Fernando Garzon President, ECS – The Electrochemical Society
- 48 Marina Gebert Group Leader Aquatic Cell Technology, Fraunhofer Institution for Marine Biotechnology, Luebeck, Germany
- 49 James Gentile Dean, Natural & Applied Sciences, Hope College; Past President, Research Corporation for Science Advancement; former Editor-in-Chief, Mutation Research
- 50 Alexander Gerber Managing Director, German Research Center for Science & Innovation Communication (INNOKOMM)
- 51 Christian Gericke Chief Executive, The Wesley Research Institute, Brisbane
- 52 Paul A. Gleeson Head, Department of Biochemistry and Molecular Biology, The University of Melbourne
- 53 Bruce L. Goode Editor, *Cytoskeleton*; Professor, Biology Rosenstiel Basic Medical Sciences Research Center, Brandeis University
- 54 Sharona Gordon Incoming Editor, *Journal of General Physiology*
- 55 Robert M. Graham Executive Director, Victor Chang Cardiac Research Institute, Sydney, Australia
- 56 Peter Gunning President, Australian Society for Biochemistry and Molecular Biology; Editor-In-Chief, *BioArchitecture*, University of New South Wales
- 57 John Gurdon Former Chairman, Company of Biologists
- 58 Lisa Hannan Managing Editor, *Traffic*
- 59 Richard W. Hartel Editor-in-Chief, *Journal of the American Oil Chemists' Society*
- 60 Carl-Henrik Heldin Ludwig Institute for Cancer Research, Uppsala University, Sweden
- 61 Etienne Herzog Interdisciplinary Institute for NeuroScience, Bordeaux University, France
- 62 Dennis W. Hess Editor, *ECS Journal of Solid State Science & Technology and ECS Solid State Letters*
- 63 Heribert Hirt President, European Plant Sciences Organisation (EPSO)
- 64 Brian Hoal Executive Director, Society of Economic Geologists
- 65 Jason Hoyt Co-Founder and CEO, PeerJ
- 66 Fabian Huettig Assistant Medical Director, Department for Prosthodontics with Section "Medical Materials & Technology, " Center for Dentistry and Oral Medicine, Tuebingen University Hospital
- 67 Steve Humphries Editor-in-Chief, *Atherosclerosis*, Official Journal of the European Atherosclerosis Society
- 68 Tim Hunt Fellow of the Royal Society; Chair, The Company of Biologists.
- 69 Howy Jacobs Chief Editor, *EMBO Reports*
- 70 Reinhard Jahn Department of Neurobiology, MPI for Biophysical Chemistry; EMBO Publications Advisory Committee (chair); EMBL Scientific Advisory Board (vice chair); Dean, Göttingen Graduate School for Neurosciences, Biophysics, and Molecular Biosciences
- 71 David James Director, Diabetes and Obesity Program, Garvan Institute of Medical Research; Fellow, Australian Academy of Science
- 72 Mark Johnston Editor-in-Chief of *GENETICS*; Professor and Chair, Department of Biochemistry and Molecular Genetics, the University of Colorado School of Medicine
- 73 Richard A.L. Jones ex-Editor-in-Chief, *European Physical Journal*
- 74 Kozo Kaibuchi Editor-in-Chief of *Cell Structures and Functions* (the official journal of the Japanese Society for Cell Biology)
- 75 Alan Kraut Executive Director, Association for Psychological Science

76	Karl Kuchler	Medical University Vienna, Max F. Perutz Laboratories
77	Laurent Ladépêche	Interdisciplinary Institute for NeuroScience, Bordeaux University, France
78	Fernando J. Lahoz	Director, Chemical Synthesis and Homogeneous Catalysis Research Institute, Spanish National Research Center - University of Zaragoza, Zaragoza, Spain
79	Pekka Lappalainen	Executive Editor, Cytoskeleton; Research Director, Institute of Biotechnology, University of Helsinki
80	Rebecca Laurence	Publisher, <i>F1000Research</i> and F1000Posters
81	W. Mark Leader	Publications Director, American Society for Cell Biology
82	Thomas Lemberger	Chief Editor, <i>Molecular Systems Biology</i>
83	Maria Leptin	Director, EMBO
84	Anthony Linden	University of Zurich
85	Daniel Louvard	Director of the Research Centre Institut Curie
86	Michael Lynch	President, Genetics Society of America
87	Michael Marks	Co-editor, <i>Traffic</i> ; Professor, University of Pennsylvania
88	Mark Marsh	Co-editor, <i>Traffic</i> ; Director, Medical Research Council Laboratory for Molecular Cell Biology
89	Marc A. Marti-Renom	Associate Editor at PLOS Computational Biology; National Center for Genomic Analysis and Centre for Genomic Regulation, Barcelona, Spain
90	Thomas Marwick	Director, Menzies Research Institute Tasmania
91	Paul Matsudaira	Head, Department of Biological Sciences, National University of Singapore
92	Iain Mattaj	EMBL Director General
93	Satyajit Mayor	Director, National Centre for Biological Science, Bangalore, India
94	Tom Misteli	Editor-in-Chief, <i>The Journal of Cell Biology</i>
95	Thor Moeller	Researcher, Institut de Génomique Fonctionnelle (IGF), CNRS
96	Lucia Monaco	Chief Scientific Officer, Fondazione Telethon, Italy
97	Eric Murphy	Editor-in-Chief, <i>Lipids</i> , a Journal of the American Oil Chemists' Society
98	Valery Nakariakov	President, European Solar Physics Division; Physics Department, University of Warwick, UK
99	Susana Narotzky	Professor, Cultural Anthropology, University of Barcelona, Spain
100	Helga Nowotny	President, European Research Council; WWTF Vienna Science and Technology Fund
101	Paul Nurse	President, The Royal Society
102	Henk Ottens	President, Association of Geographical Societies in Europe EUGEO
103	Mark Patterson	Executive Director, <i>eLife</i>
104	Eva Pebay-Peyroula	Professor, Joseph Fourier University, Grenoble Member of the French Academy of Science
105	Pedro Pereira	Associate Researcher, IBMC - Instituto de Biologia Molecular e Celular, Portugal
106	Richard N. Perham	Editor-in-Chief, <i>FEBS Journal</i>
107	Alaine Peyraube	Director of Research at the CNRS (France)
108	Olivier Pironneau	Professor, LJLL - Analyse Numérique, Université Pierre et Marie Curie (Paris VI)
109	Heather Piwowar	Cofounder, ImpactStory
110	Olivier Pourquié	Editor-in-Chief, <i>Development</i>
111	Jacques Pouyssegur	Research Director at CNRS, Member of French & European Academy, Nice
112	Alberto Prestininzi	Editor-in-Chief, <i>Italian Journal of Engineering Geology and Environment</i>
113	Jason Priem	Co-founder, ImpactStory
114	Edward N. Pugh, Jr.	Editor, <i>Journal of General Physiology</i>
115	Bernd Pulverer	Chief Editor, <i>The EMBO Journal</i> ; Head of Scientific Publications, EMBO
116	Marianne Quiquandon	Researcher, CNRS-France
117	Jordan Raff	President, British Society of Cell Biology; Editor-in-Chief, <i>Biology Open</i> ; Professor, Cancer Cell Biology, University of Oxford.
118	Francisco X. Real	Spanish National Cancer Research Center and Universitat Pompeu Fabra
119	Alyson Reed	Executive Director, Linguistic Society of America
120	Kari Rissanen	Academy Professor, Department of Chemistry, University of Jyväskylä, Finland
121	Phillip J. Robinson	Head, Cell Signalling Unit, Children's Medical Research Institute
122	Mike Rossner	Executive Director, The Rockefeller University Press

123	Didier Roux	Member of the French Academy of Sciences
124	Anthony J. Ryan	Pro Vice Chancellor, Faculty of Science, The University of Sheffield
125	Jean-Louis Salager	Editor-in-Chief, <i>Journal of Surfactants and Detergents</i>
126	Noel B. Salazar	President, European Association of Social Anthropologists
127	Michele Saviano	President of Italian Association of Crystallography, Director of Institute of Crystallography-CNR
128	Randy Schekman	Editor-in-Chief, <i>eLife</i>
129	Sandra Schmid	Cecil H. Green Distinguished Chair in Cellular and Molecular Biology; Professor and Chair, Department of Cell Biology, University of Texas Southwestern Medical Center
130	Trina Schroer	Co-editor, <i>Traffic</i> ; Professor, Johns Hopkins University
131	Ulrich Schubert	Professor, Institute of Material Chemistry, Vienna University of Technology
132	Jörg Schulz	Editor-in-Chief, <i>Journal of Neurochemistry</i> ; Chair and Full Professor, Department of Neurology, RWTH Aachen University, Germany
133	André Sentenac	Member of the French Academy of Sciences; Former Director of a Department of Biology at the CEA (Atomic Energy Commission)
134	Robert Shepherd	Director, Bionics Institute, University of Melbourne
135	Stuart Shieber	Harvard University
136	Tom Stevens	Co-editor, <i>Traffic</i> ; Professor, University of Oregon
137	Jennifer L. Stow	Professor and Deputy Director, Research, Institute for Molecular Bioscience, The University of Queensland
138	Sona Strbanova	Associate Professor, Centre for the History of Sciences and Humanities, Institute for Contemporary History, Academy of Sciences of the Czech Republic
139	Marlowe Tessmer	Senior Editor, <i>The Journal of Experimental Medicine</i>
140	Robert Tjian	President, Howard Hughes Medical Institute
141	Gerrit Van Meer	Dean of the Faculty of Sciences, Utrecht University
142	Petr Vanýsek	Editor, <i>Journal of The Electrochemical Society and ECS Electrochemistry Letters</i>
143	Inder Verma	Editor-in-Chief, <i>Proceedings of The National Academy Of Sciences (PNAS)</i>
144	Michael Way	Editor-in-Chief, <i>Journal of Cell Science</i>
145	Heiner Weber	Dean, Center for Dentistry and Oral Medicine; Chairman, Department of Prosthodontics, University of Tuebingen, Germany
146	Eric Westhof	Directeur, Institut de biologie moléculaire et cellulaire du CNRS, Strasbourg, France
147	Kathleen Wets	Publisher, F1000Prime
148	Felix Wieland	Managing Editor, <i>FEBS Letters</i>
149	Liz Williams	Executive Editor, <i>The Journal of Cell Biology</i>
150	Mitsuhiro Yanagida	Editor-in-Chief, <i>Genes to Cells</i>
151	Alpha Yap	Head, Division of Molecular Cell Biology, Institute for Molecular Bioscience, The University of Queensland
152	Mary Yess	Deputy Executive Director and Publisher, ECS - The Electrochemical Society
153	Marino Zerial	Max Planck Director, Max Planck Institute of Molecular Cell Biology and Genetics, Dresden
154	Ya-ping Zhang	Vice-President, Chinese Academy of Sciences
155	Jiří Zlatuška	Rector emeritus, Professor, Masaryk University, Brno, Czech Republic



## List of Original Signers (Organizations)

- 1 Academy of Sciences of the Czech Republic (AS CR)
- 2 Altmetric LLP
- 3 American Association for the Advancement of Science (AAAS)
- 4 American Oil Chemists' Society
- 5 American Society for Cell Biology
- 6 American Society of Agronomy
- 7 Association for Psychological Science
- 8 Austrian Science Fund (FWF)
- 9 *Biology Open*
- 10 British Society for Cell Biology
- 11 *CBE—Life Sciences Education*
- 12 *Cell Structure and Function* (a journal published by Japanese Society of Cell Biology)
- 13 Centro Nacional de Analisis Genomico (CNAG)
- 14 Crop Science Society of America
- 15 Czech Mathematical Society
- 16 Department of Cell Biology, University of Texas Southwestern Medical Center
- 17 *Development*
- 18 *Disease Models & Mechanisms*
- 19 ECS - The Electrochemical Society
- 20 *eLife*
- 21 EMBO
- 22 EuChemS
- 23 European Association of Science Editors
- 24 European Association of Social Anthropologists
- 25 European Astronomical Society (EAS)
- 26 European Atherosclerosis Society (EAD)
- 27 European Council of Doctoral Candidates and Junior Researchers (EURODOC)
- 28 European Crystallographic Association
- 29 European Education Research Association (EERA)
- 30 European Federation for Medicinal Chemistry (EFMC)
- 31 European Glaucoma Society
- 32 European Mathematical Society
- 33 European Optical Society
- 34 European Society for Soil Conservation
- 35 European Society for the History of Science
- 36 European Sociological Association
- 37 Faculty of 1000
- 38 *FEBS Journal*
- 39 *FEBS Letters*
- 40 *FEBS Open Bio*
- 41 Federation of European Biochemical Societies
- 42 Fondazione Telethon
- 43 Garvan Institute of Medical Research
- 44 Genetics Society of America (GSA)
- 45 Gordon and Betty Moore Foundation
- 46 Higher Education Funding Council for England (HEFCE)

- 47 Howard Hughes Medical Institute
- 48 ImpactStory
- 49 Institute for Molecular Bioscience, Brisbane Australia
- 50 Institute of Mathematics, Academy of Sciences of the Czech Republic, Prague
- 51 *Journal of Cell Science*
- 52 *Journal of Neurochemistry* (Society Journal of the International Society of Neurochemistry)
- 53 Linguistic Society of America
- 54 *Macedonian Journal of Chemistry and Chemical Engineering*
- 55 Medical Research Council Laboratory of Molecular Cell Biology
- 56 *Molecular Oncology*
- 57 *Molecular Biology of the Cell*
- 58 Nacional de Analisis Genomico (CNAG), Barcelona, Spain
- 59 PeerJ
- 60 *Proceedings of The National Academy Of Sciences (PNAS)*
- 61 Public Library of Science (PLOS)
- 62 Society of Chemists and Technologists of Macedonia
- 63 Society of Economic Geologists
- 64 Soil Science Society of America
- 65 Spanish Crystallographic Association (GE3C)
- 66 Swiss Academy of Medical Sciences
- 67 The American Physiological Society
- 68 *The Anatomical Record*
- 69 The Association of Australian Medical Research Institutes
- 70 The Bionics Institute
- 71 The Company of Biologists
- 72 The European Society for History of Science
- 73 The International Society of Addiction Journal Editors
- 74 *The Journal of Cell Biology*
- 75 *The Journal of Experimental Biology*
- 76 The Macfarlane Burnet Institute for Medical Research and Public Health (Burnet Institute)
- 77 Victor Chang Cardiac Research Institute
- 78 Wellcome Trust