

文部科学省 平成 28 年度 研究開発評価シンポジウム
～大綱的指針の改定を踏まえた新しい研究開発評価へ向けて

第 1 部 講演：「国の研究開発評価に関する大綱的指針」を踏まえた
研究開発評価の推進について

研究開発評価に関する国際的な視点や国際動向

東京, 全日通霞が関ビルディング 8 階 大会議室

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アウトライン

1. 研究開発評価に関する国際的な視点
2. 研究開発評価に関する国際動向

現行の「大綱的指針」における「国際的な視点」に関する記述

第1章 基本的な考え方

III. 特に留意すべき事項

2. アイデアの斬新さと経済・社会インパクトを重視した研究開発の促進

国際的視点での評価

(以下、該当箇所 (p.11) からの抜粋)

- 経済社会のグローバル化が進展する中で、国費を用いて実施される研究開発においては、科学の国際的な水準の向上、産業競争力・国際競争力の強化、地球規模の課題解決のための国際協力の推進など、**国際的視点**からの取組が重要となっている。
- このような**研究開発の国際化への対応**に伴い、評価項目・評価基準に**国際的視点**^(注9)を積極的に取り入れるなど、**国際的視点**も踏まえつつ評価を実施するよう留意する。
- なお、この場合には、研究開発によって出された成果の比較にとどまらず、どのようなマネジメントが行われているのか、どのような制度に基づき実施しているのか等、周辺の状況にまで踏み込んで比較・検討することに留意する。
- (注9) **研究開発評価の在り方**に関する**国際的視点**の事例として、「研究アセスメントに関するサンフランシスコ宣言」や「研究測定法に関するライデン声明」等がある。

研究のアセスメント及びエヴァリュエーションにおける 適切な測定及び指標の利用等

国際的に広まっている主要な声明・報告書等の例：

- San Francisco Declaration on Research Assessment
(研究アセスメントに関するサンフランシスコ宣言)
- The Leiden Manifesto for Research Metrics
(研究測定法に関するライデン声明)
- HEFCE^{*1} (イングランド高等教育資金配分会議) による *The Metric Tide* (測定の潮流)
レポート
- AEA RTD-TIG^{*2} (アメリカ評価学会 研究・技術・開発評価分科会) によるペーパー

*1 HEFCE: Higher Education Funding Council for England

*2 AEA RTD-TIG: Research, Technology and Development Evaluation Topical Interest Group of the American Evaluation Association

San Francisco Declaration on Research Assessment (1/2)

- San Francisco Declaration on Research Assessment
[<http://www.ascb.org/files/SFDeclarationFINAL.pdf?x30490>]

The screenshot shows the DORA website with the following content:

- San Francisco DORA Declaration on Research Assessment**
- Navigation:** DORA, About DORA, Sign The Declaration, Inspiration and Good Practices, A Letter to Thomson Reuters
- Main Text:** The San Francisco Declaration on Research Assessment (DORA), initiated by the American Society for Cell Biology (ASCB) together with a group of editors and publishers of scholarly journals, recognizes the need to improve the ways in which the outputs of scientific research are evaluated.
- The Declaration:** 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.
- News About DORA:** Bias Against Novelty in Science: A Cautionary Tale for Users of Bibliometric Indicators. Includes a button for 'DORA News Archives' and a 'Learn More about DORA' button.
- Search for Signatories:** A search interface with filters for Individual and Organization. Results include:
 - Individual Signatories: Sören Kuitunen-Piipponen (TU Dresden), Corina Logan (University of Cambridge), seyed valizadeh (ETHZ), Felipe Aparicio (Universidad Autónoma Metropolitana).
 - Organization Signers: The Japanese Biochemical Society (Signed By: Yoshinobu Nakanishi), Cell Structure and Function (a journal published by Japanese Society of Cell Biology), EPFL (Signed By: Martin Vetterli), Ediciones Open Library (Signed By: Manuel Loyola).

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

San Francisco Declaration on Research Assessment (2/2)

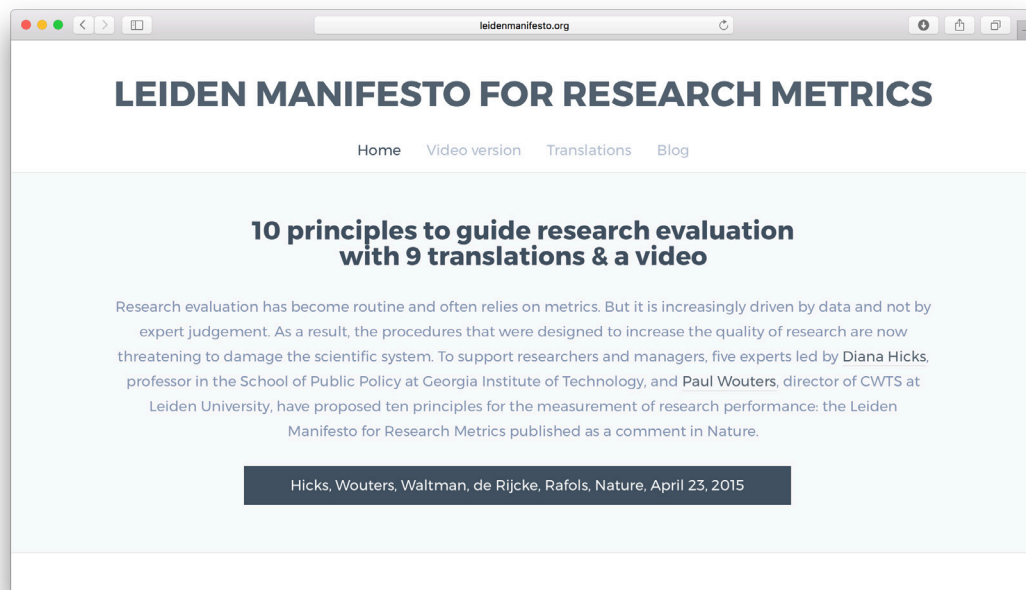
3つの勧告：

- The need to eliminate the use of journal-based metrics, such as Journal Impact Factors, in funding, appointment, and promotion considerations;
資金配分, 任用, 及び昇進についての検討の際における, ジャーナル・インパクト・ファクターのような, 学術誌に基づく測定法の利用を排除する必要；
- The need to assess research on its own merits rather than on the basis of the journal in which the research is published; and
研究が公表される学術誌に根拠を置くよりも, 研究自体の長所に基づいて研究を評定する必要；並びに,
- 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).
オンライン出版物とすることにより提供される機会（論文における語数, 図数, 及び参考文献数に関する不必要な制限を緩和する, 並びに意義やインパクトに係る新たな指標を探究するといったこと）を活用する必要.

18項目の実践

The Leiden Manifesto for Research Metrics (1/3)

- Hicks, D. et al. (2015) "The Leiden Manifesto for research metrics," *Nature*, 520, 429–431.
[http://www.nature.com/polopoly_fs/1.17351!/menu/main/topColumns/topLeftColumn/pdf/520429a.pdf];
日本語訳^{*1} : http://www.leidenmanifesto.org/uploads/4/1/6/0/41603901/leiden_manifesto_japanese_161129.pdf]



*1 なお、この日本語訳では“metrics”に対して「計量」という訳語が当てられているが、“metrics”は必ずしも測定が「定量的」になるものだけに限定されないこと、また、“method (方法)”の概念を内包することから、ここでは「測定法」としている。

The Leiden Manifesto for Research Metrics (2/3)

10 の原則：

1. Quantitative evaluation should support qualitative, expert assessment.
定量的評価は、定性的な専門家による評定の支援に用いるべきである。
2. Measure performance against the research missions of the institution, group or researcher.
機関、グループ、又は研究者の研究目的に照らして業績を測定せよ。
3. Protect excellence in locally relevant research.
地域関連研究における卓越性を保護せよ。
4. Keep data collection and analytical processes open, transparent and simple.
データ収集と分析過程をオープン、透明、かつ単純に保て。
5. Allow those evaluated to verify data and analysis.
被評価者がデータと分析を確認することができるようにせよ。
6. Account for variation by field in publication and citation practices.
分野による発表と引用慣行における差異に留意せよ。
7. Base assessment of individual researchers on a qualitative judgement of their portfolio.
個々の研究者の評定は、そのポートフォリオの定性的判定に根拠を置け。

The Leiden Manifesto for Research Metrics (3/3)

10 の原則（続き）：

8. Avoid misplaced concreteness and false precision.
不適切な具体性や誤った精緻性を避けよ。
9. Recognize the systemic effects of assessment and indicators.
評定と指標のシステム形成効果を認識せよ。
10. Scrutinize indicators regularly and update them.
指標を定期的に精査し更新せよ。