

3.4 Scientometry as a tool to evaluate the quality of scientific work

Journal Citation Reports - one of the database of **Web of Knowledge** of the **Institute for Scientific Information (ISI)**. Journals from all scientific fields are included and evaluated.

<http://isiknowledge.com/>

The comparison is largely mainly based on the **impact factor (IF)**, i.e. **the average number of citations per article within past two years**. **Higher impact factor** usually reflects **better quality** and higher impact in the scientific community.

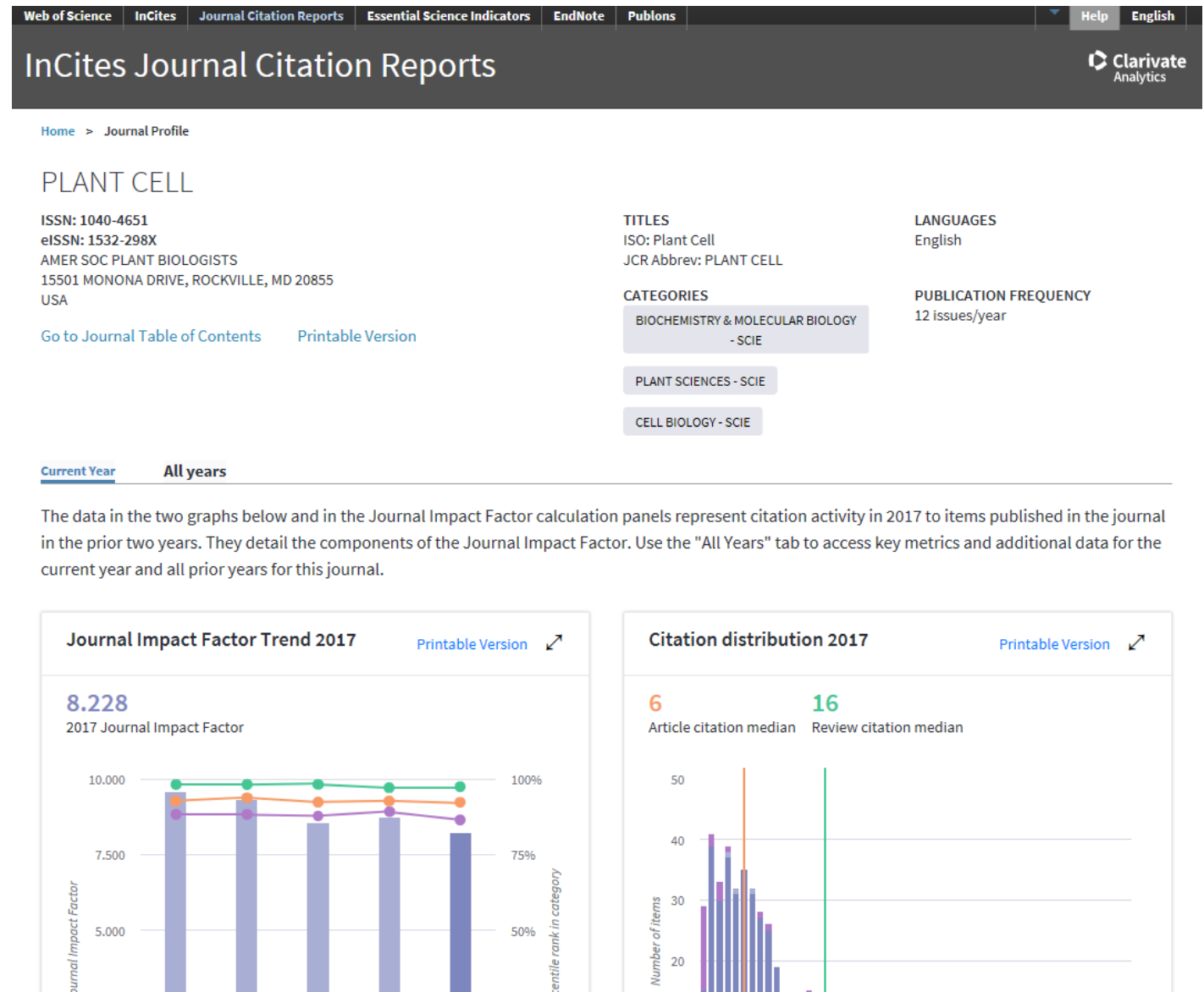
The screenshot displays the Journal Citation Reports website. At the top, there is a navigation bar with the Clarivate logo and links for 'Journal Citation Reports', 'Browse journals', and 'Browse categories'. The main header area is purple and features the text 'The world's leading journals and publisher-neutral data' along with a search input field. Below this, a white box prompts users with 'Already have a manuscript?' and includes a 'Match my manuscript' button. The bottom section of the image shows the 'InCites Journal Citation Reports' page, which has a dark navigation bar with links to 'Web of Science', 'InCites', 'Journal Citation Reports', 'Essential Science Indicators', 'EndNote', and 'Publons'. The main content area is white and contains a 'Welcome to Journal Citation Reports' message, a search bar with 'PROTOPLASMA' entered, and three large buttons: 'Browse by Journal', 'Browse by Category', and 'Custom Reports'.

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There are also several other factors with kind of improved validity for comparison between research fields, like [Eigenfactor](#) calculated from 5-year impact factor and considering also the scope of journals, where the citations appear.

Very often, journals are evaluated based on their ranking in **individual quartiles of IF or Eigenfactor**.

Good researchers are **pushed to publish only in the best quartile or even decile**.



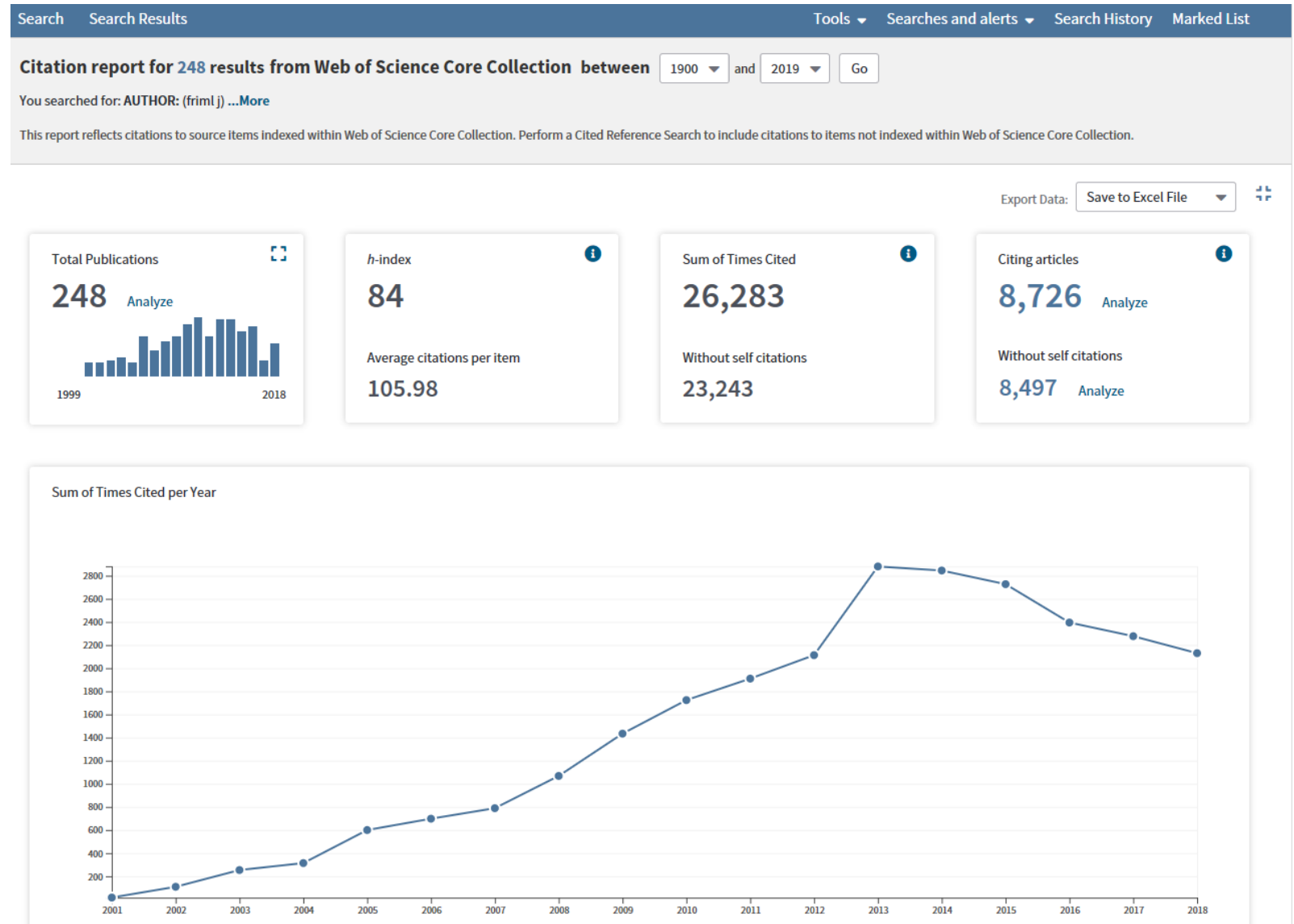
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Scientometry is also used for the evaluation of the quality of **individual researchers**.

Hirsch index (h), introduced by **J. Hirsch in 2005** is often used.

A researcher has an **h-index**, if he/she has published at least h publications for which he/she has received at least h citations.

h index could be found in WOS and Scopus databases.



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Citation profile for individual scientists could be found using author search using ISI WOS, Scopus or Google Scholar

Individual researcher are responsible for keeping their publication record up to date using following services:

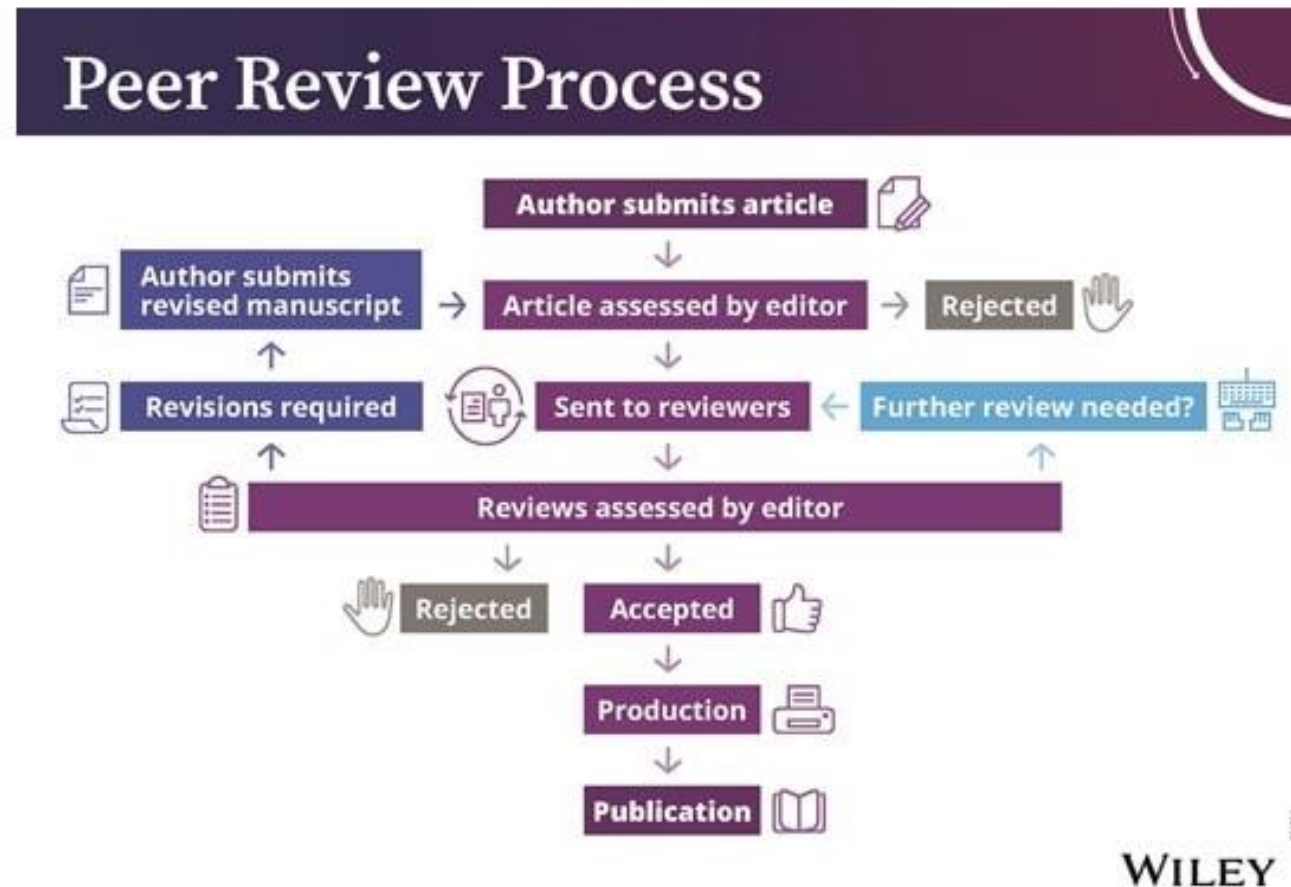
- 1) **Publons** (formerly researcher ID, ISI WOS)
- 2) **ORCID** (Open Researcher and Contributor Identifier)
- 3) **Google Scholar** (User Profiles)
- 4) **Scopus** (Citation overview)

TITLE	CITED BY	YEAR
PIN proteins perform a rate-limiting function in cellular auxin efflux J Petrášek, J Mravec, R Bouchard, JJ Blakeslee, M Abbas, D Sailerová, ... Science 312 (5775), 914-916	947	2006
Auxin inhibits endocytosis and promotes its own efflux from cells T Placovsek, E Zaczmalová, N Ruthardt, J Petrášek, YD Slikerhof, ... Nature 435 (7046), 1251-1256	807	2005
Auxin transport routes in plant development J Petrášek, J Fritzi Development 136 (16), 2675-2688	782	2009
Subcellular homeostasis of phytohormone auxin is mediated by the ER-localized PIN5 transporter J Mravec, P Škúpa, A Bally, K Hoyerová, P Křeček, A Bielač, J Petrášek, ... Nature 459 (7246), 1136-1140	534	2009
Cytokinin regulates root meristem activity via modulation of the polar auxin transport K Růžička, M Šimáková, J Dostálek, J Petrášek, S Zedníková, S Šimová, ... Proceedings of the National Academy of Sciences 106 (11), 4284-4289	417	2009
A novel putative auxin carrier family regulates intracellular auxin homeostasis in plants E Barbez, M Kubek, J Růžička, C Baziat, A Pěnčík, B Wang, MR Rosquete, ... Nature 485 (7396), 119-122	343	2012

3.5. Peer review process

Who is included in the peer review process?

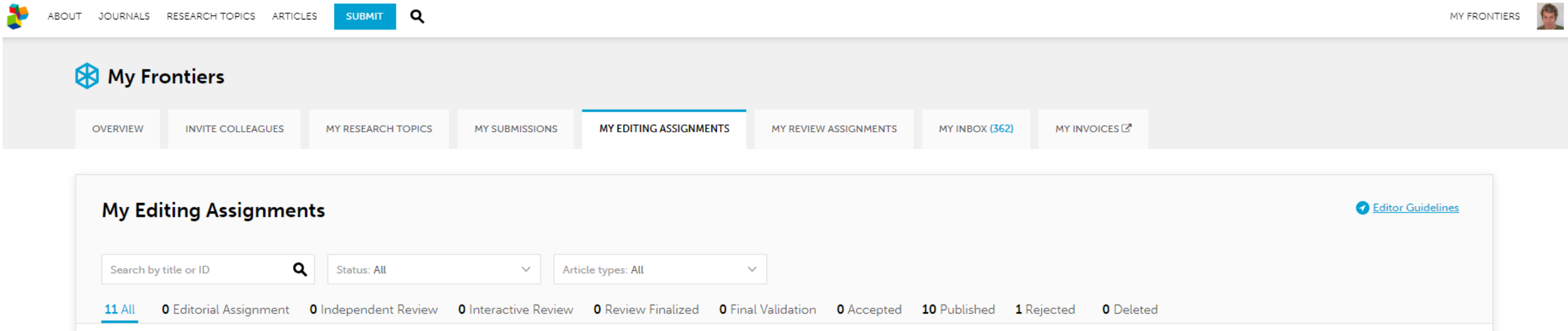
Authors, reviewers, and editors



[How peer review works? From article submission to publishing - YouTube](#)

3.5. Peer review process

Example of the process from the positions of the author, reviewer and editor



The screenshot shows the 'My Frontiers' user interface. At the top, there is a navigation bar with links for 'ABOUT', 'JOURNALS', 'RESEARCH TOPICS', 'ARTICLES', and a 'SUBMIT' button. A search icon is also present. On the right, there is a 'MY FRONTIERS' profile link with a small user avatar.

Below the navigation bar, the 'My Frontiers' logo is displayed. A horizontal menu contains several tabs: 'OVERVIEW', 'INVITE COLLEAGUES', 'MY RESEARCH TOPICS', 'MY SUBMISSIONS', 'MY EDITING ASSIGNMENTS' (which is currently selected), 'MY REVIEW ASSIGNMENTS', 'MY INBOX (362)', and 'MY INVOICES'. Below this menu, the 'My Editing Assignments' section is visible. It includes a search bar labeled 'Search by title or ID', a 'Status: All' dropdown menu, and an 'Article types: All' dropdown menu. At the bottom of this section, there is a summary bar showing: '11 All', '0 Editorial Assignment', '0 Independent Review', '0 Interactive Review', '0 Review Finalized', '0 Final Validation', '0 Accepted', '10 Published', '1 Rejected', and '0 Deleted'. A link for 'Editor Guidelines' is located in the top right corner of the section.



The screenshot shows the header of the Springer Nature website for the 'Journal of Plant Growth Regulation'. It features the 'em' logo on the left, followed by the Springer Nature logo and the journal title 'Journal of Plant Growth Regulation'. Below the journal title, there is a navigation menu with links for 'Home', 'Main Menu', 'Submit a Manuscript', 'About', 'Help', and 'Shortcuts'. A 'Quicklinks' button is located at the bottom left of the header area.