An overview on the scientometric advancement of the eJIFCC

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REPORT

The history of the electronic Journal of the International Federation of Clinical Chemistry and Laboratory Medicine (eJIFCC) dates back over 20 years. Browsing the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) website one can witness that the earliest issues date back to the previous millennium. The eJIFCC publishes Thematic Issues as well as Issues with Free Communications, where the publication types can be Reviews, Original Articles, Case Reports and Letters. While assessing the volume of the published issues, it can be promptly realized that the annual published page count has increased considerably in recent years. All eJIFCC issues from 1999 onward are available online and are indexed, in a searchable, downloadable, and citable from on PubMed as of 2018. Since its conception, the eJIFCC has remained a Platinum Open Access Journal, distributed under the terms of the Creative Commons Attribution Non-Commercial License, that provides a

venue to all individuals who intend to publish in the vast field of laboratory medicine. The number of submissions for Free Communications has significantly increased from year to year, and according to figures from the past four years, and because of a strict peer review process, 71% of the submitted Free Communications were rejected and the reminder, 29%, were accepted, almost always following minor or major revision.

Global interest in the eJIFCC is illustrated by the geographical diversity of the published manuscripts (Table 1). In the past four years, on average 41 papers (range: 36-47) were published annually in a quarterly manner. This represents a significant increase as compared to the earlier years. It is also important that all involved strive to minimize the turnaround time of the accepted papers (i.e., from acceptance to publication). The quality of the published issues and individual papers has improved remarkably over the years thanks to our publisher Insoft Canada Inc.

The query naturally arises whether the increment in the number of publications and printed pages is accompanied with an enhanced recognition of the eJIFCC? In this short report, we delineate the path that the eJIFCC has followed in the past years and seek to characterize the journal by various objective scientometric parameters.

Evaluation by SCImago

The SCImago Journal Rank (SJR) is a widely accepted form of the real influence of a scientific journal. This evaluation accounts for both the number of citations received by a journal and the importance or prestige of the journals where the citations come from. A journal's SJR is a numeric value indicating the average number of weighted citations received during a selected year per document published in that journal during the previous three years. The SJR indicator has been developed to be used in extremely large and heterogeneous journal citation networks. It is a size-independent indicator, and its values rank journals by their "average prestige per article" and can be used for journal comparisons in science evaluation processes. The SJR indicator computation is carried out using an iterative algorithm that distributes prestige values among the journals until a steady-state

Table 1	Accepted manuscripts in the eJIFCC by geographical distribution in the period 2018-2021

Europe (76 papers)	Asia (31 papers)	America (20 papers)	Africa (20 papers)	Oceania (1 paper)
18: Italy	12: India	7: Canada, United States	10: Ethiopia	1: New Zealand
16: Spain	6: Nepal	3: Argentina	3: Morocco	
11 : Hungary	5: Turkey	2: Mexico	2: Nigeria, Sudan, South Africa	
6: Greece	3: Pakistan	1: Ecuador	1: Algeria	
5: Belgium, UK	2: Syria			
2: Austria, France Germany, Malta	1: Bangladesh, Japan, Malaysia			
1: Croatia, Czech Republic, Denmark, Lithuania, Portugal, Serbia, Slovenia				

The eJIFCC is open to all who submit valuable materials. As can be seen, accepted papers (reviews, original articles, case reports, letters) published in the period (2018-2021) were submitted from 5 continents and 37 different countries.

solution is reached. The SJR algorithm begins by setting an identical amount of prestige to each journal, then using an iterative procedure, this prestige is redistributed in a process where journals transfer their achieved prestige to each other through citations. The process ends up when the difference between journal prestige values in consecutive iterations do not reach a minimum threshold value anymore. The process is developed in two phases, (i) the computation of Prestige SJR (PSJR) for each journal: a size-dependent measure that reflects the whole journal prestige, and (ii) the normalization of this measure to achieve a size-independent measure of prestige, the SJR indicator. SCImago Journal Rank was developed by Scimago Lab. and it originates from a research group at University of Granada.

Based on the above criteria, journals are categorized into quartiles each representing 25% of the total sum and Q1 being the most highly cited journals. Within this quartile, a D1 group is a subcategory that labels the top 10% of the journals in that category. By using this evaluation, the eJIFCC ranks 24 out of 59 Medical Biochemistry journals and falls into the Q2 (Quartile 2) category along with several other respected laboratory journals.

Evaluation by Impact Factor

The founder of the Institute of Scientific Information, Eugene Garfield, devised the impact factor. For any given year, the ratio between the number of citations received in that year for publications in the given journal that were published in the preceding two years and the total number of citable items published in that journal during the two preceding years is the so-called two-year journal impact factor. Citable items are publications that are classified as article, review, or proceedings paper in the Web of Science database, as such editorials, corrections, notes, retractions, and discussions are excluded. The number of citations is extracted from the

Journal Citation Reports (JCR) database, which is published by Clarivate. Furthermore, to accommodate annuals or other publications with irregular frequency, the JCR also includes a five-year impact factor which is a ratio of the citations to a given journal each year and the number of citable items published in the given journal during the preceding five years.

The application for inclusion of eJIFCC to the Web of Science core collection was submitted in March 2019. But following announcement of a new submission system in May 2021, our pending application was earmarked for resubmission, and the eJIFCC is still under evaluation by Clarivate.

Evaluation by Cite Score

The Cite Score (CS) of an academic journal is a measure reflecting the yearly average number of citations to recent articles published in that journal. This journal evaluation metric is relatively new and was launched in December 2016 by Elsevier as an alternative to the generally used JCR impact factors (calculated by Clarivate). Cite Score is based on the citations recorded in the Scopus database rather than in JCR, and those citations are collected for articles published in the preceding four years instead of two or five.

In any given year, the Cite Score of a journal is the number of citations, received in that year and previous 3 years, for documents published in the journal during that period (four years), divided by the total number of published documents (articles, reviews, conference papers, book chapters, and data papers) in the journal during the same four-year period. The calculation date for each given Cite Score as later additions, corrections or deletions to the data will not lead to a score update. Scopus also provides the projected-Cite Scores for the next year, which are updated every month. Before 2020, the score was calculated differently: in a given year, the Cite Score of

a journal was the number of citations, received in that year, of articles published in that journal during the three preceding years, divided by the total number of "citable items" published in that journal during the three preceding years: The Cite Score of the eJIFCC for 2020 was 2.7, and as it looks in early November 2021 the Cite Score tracker for 2021 indicates a value of 4.9. When compared to more established and respected journals, the eJIFCC has now also gained visibility on the Cite Score map (Figure 1).

### Evaluation by the Source Normalized Impact per Paper

Source Normalized Impact per Paper (SNIP) measures contextual citation impact by weighting citations based on the total number of citations in a subject field. The impact of a single citation is given higher value in subject areas where citations are less likely, and vice versa. Unlike the well-known journal impact factor, SNIP corrects for differences in citation practices between scientific fields, thereby allowing for more accurate between-field comparisons of citation impact. CWTS Journal Indicators also provides stability intervals that indicate the reliability of the SNIP value of a journal. SNIP was created by Professor Henk F. Moed at the Centre for Science and Technology Studies (CWTS), University of Leiden.

The advantage of using SNIP are the followings:

- Measures contextual citation impact by 'normalizing' citation values.

| Figure 1 | Cite Score value (blue bars) and Percentile category (red lines) of selected clinical laboratory journals |
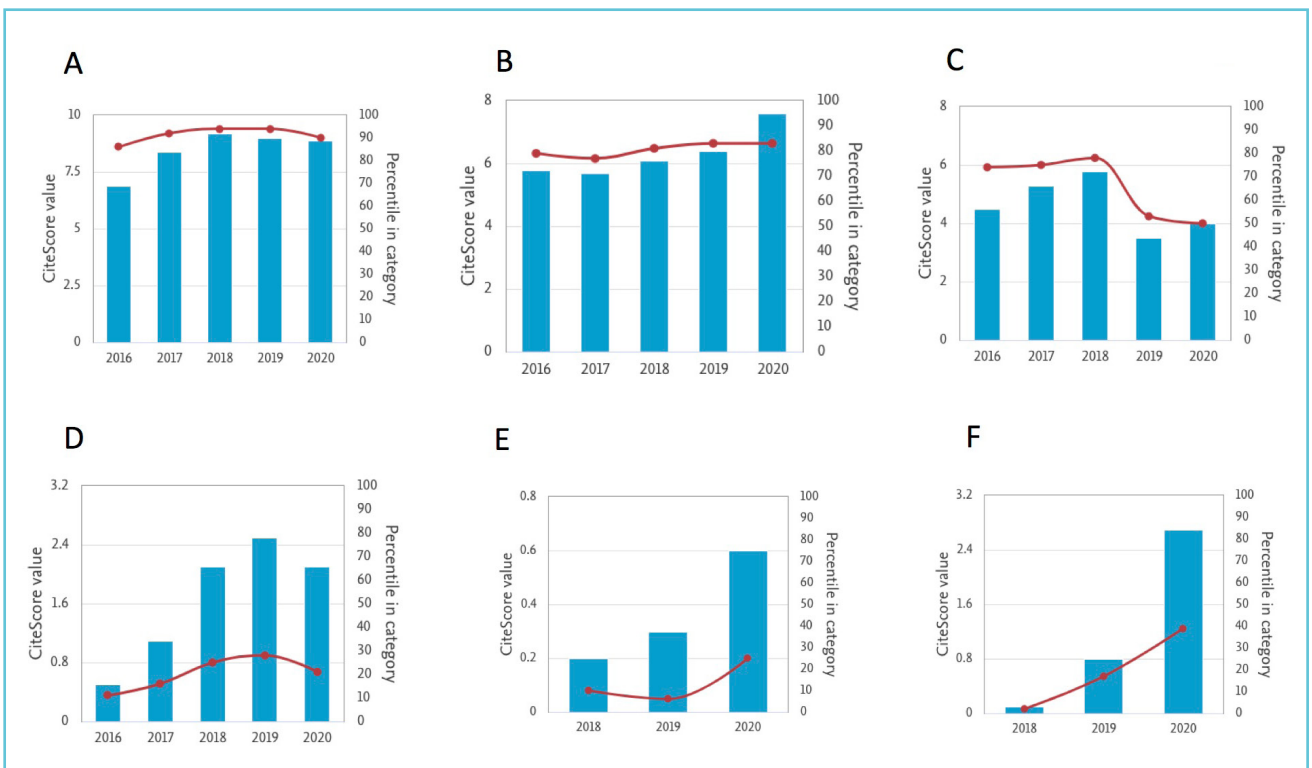
Respected clinical laboratory journals have a Cite Score value in the range of 5-10 and a percentile value in the upper quadrant, but with potential fluctuation in some cases (panels A-C). Other less known laboratory journals have lower Cite Score values and some are only present on this metric scale in recent years. Panel F demonstrates the steady increase for both Cite Score and Percentile parameters in case of the eJIFCC.

- Takes a research field's citation frequency into account.
- Considers immediacy - how quickly a paper is likely to have an impact in a given field.
- Accounts for how well the field is covered by the underlying database.
- Calculates without use of a journal's subject classification to avoid delimitation.
- Counters any potential for editorial manipulation.

A SNIP value of 1.0 means that a journal's articles are cited at the average rate for all journals in the same subject area; anything over 1.0 indicates more citations than the average in that field while a SNIP of less than 1.0 is below the average. A SNIP of more than 1.5 generally indicates a very well-cited journal. The 2020 SNIP score of the eJIFCC is 1.177, suggesting that it is higher than the average in the field and is in the range of other well-established laboratory journals.

It is also important how the citations are gained, and which published manuscripts generate the most citations. The 5 top-cited papers published in the eJIFCC based on the Clarivate database are demonstrated in Table 2.

It can be concluded that general laboratory topics as well as specialized areas are both of interest, and it is also interesting that two of the most cited papers were published recently. It is important to note that Issue-2 in 2019, a Thematic Issue guest edited by Béla Nagy jr. on 'non-coding RNAs as potential biomarkers' generated an immense interest. The 9 papers published in that Thematic Issue have an average citation of 25 per paper i.e., roughly 10 times that of an average eJIFCC cited paper. This means that when a hot topic is appropriately addressed it has a high chance of attracting the attention of the laboratory community to our journal.

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Table 2	The top 5 cited papers published in the eJIFCC based on Web of Science data			
Name of authors	**Title**	**Year**	**Pages**	**Times cited**
Simundic A.M.	Measures of diagnostic accuracy: basic definitions	2009	203-211	**470**
Bonneau E, Neveu, Konstantin E, Tsongalis GJ, DeGuire V.	How close are miRNAs from clinical practice ? A perspective on the diagnostic and therapeutic market	2019	114-127	**93**
Kelly J, Sadeghien T, Adeli K.	Peer review in scientific publications:benefits, critiques and a survival guide	2014	227-243	**79**
Zakaria R, Allen KJ, Koplin J, Roche P, Greaves R.	Advantages and challenges of dried blood spot analysis by mass spectrometry across the total testing process	2016	288-317	**72**
diResta C, Galbiati S, Carrera P, Ferrari M.	Next-generation sequencing approach for the diagnosis of human diseases: open challanges and new opportunities	2018	4-14	**51**

The top 5 cited papers from the eJIFCC as retrieved from the Clarivate database. These papers represent the versatility of the topics that were published in the journal. The highest total citation is a single author review on the measures of diagnostic accuracy while the highest citation/year paper is a relatively recent review on microRNAs.