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# Why should a science journal be published in English?

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# Introduction

- English is the modern day *lingua franca* (trade language) of science.
- It is easier to express scientific ideas and results in English than in Asian languages, mainly because modern science was invented and developed in Europe and North America.
- Non-English-language papers have a much smaller audience, therefore **their chances of getting cited are minimal**.
- **When published in English, scientific findings are accessible to a much wider worldwide audience.**
- Only journals published in English can fully exploit modern technological advances in information technology, such as electronic journal databases, XML and CrossCheck among many others.

# Comparison of Impact Factors between English-language and non-English-language journals

- **Impact Factor** (Thomson Reuters, Journal Citation Reports): Number of citations appearing in publications in a given year to articles published in a given journal in the previous two years, divided by the number of citable articles published in those two years
- It is very difficult for non-English-language journals to be included in the JCR.
- **Non-English-language journals in the JCR have substantially lower Impact Factors than English-language journals.**

# Example (medicine, general & internal)

- S. Vinther, J. Rosenberg, "Impact factor trends for general medical journals: non-English-language journals are lagging behind," Swiss Medical Weekly 2012;142:w13572

**Table 1a:** Characteristics of journals (classification: language).

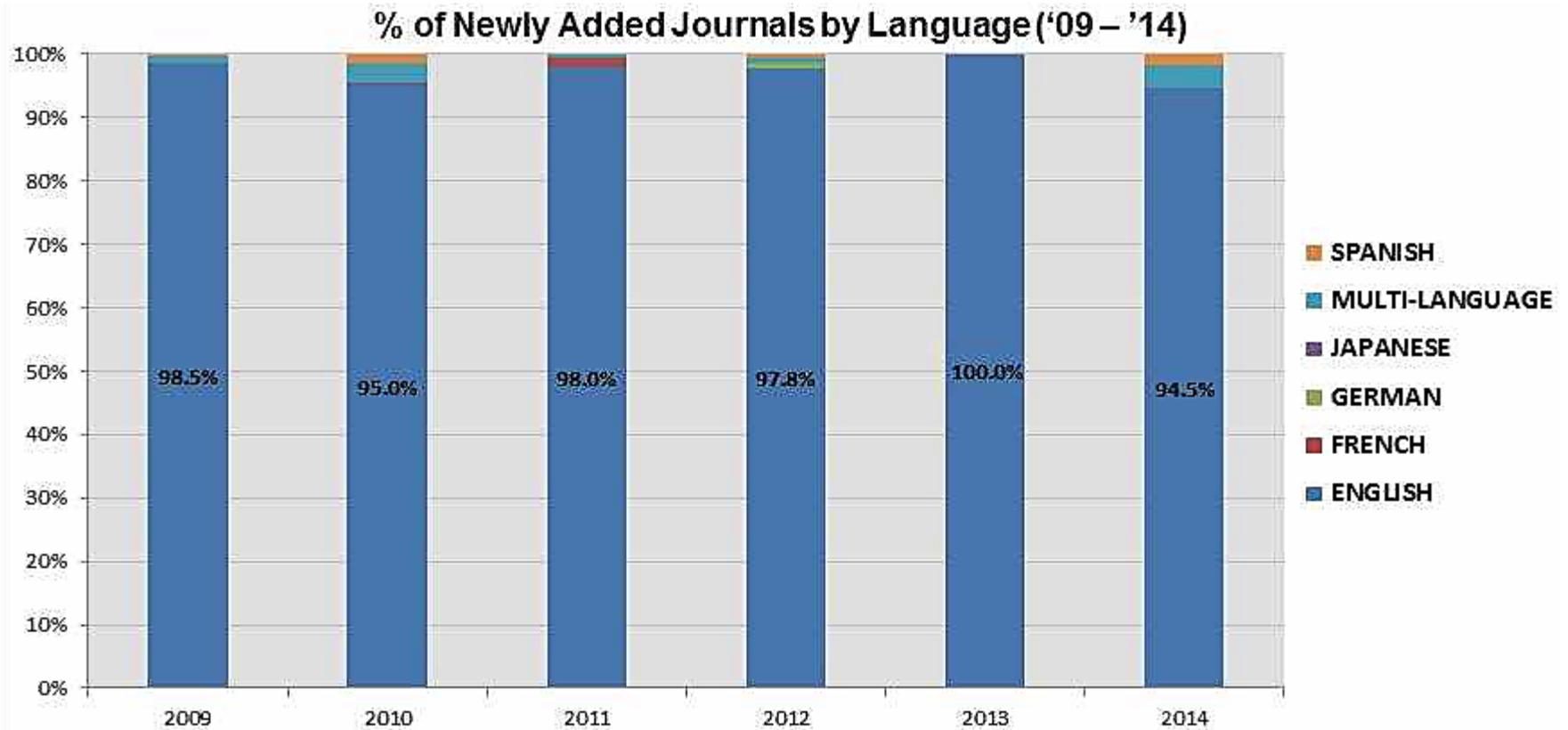
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>English-language journals</b>										
No of journals	71	75	76	76	78	78	79	84	102	114
English:all journals	79.8%	80.6%	80.9%	80.9%	80.4%	80.4%	80.6%	80.0%	78.5%	76.0%
Median IF	0.78	0.92	1.02	1.22	1.25	1.34	1.55	1.72	1.49	1.45
25% quartile IF	0.46	0.57	0.58	0.65	0.66	0.75	0.86	1.00	0.83	0.73
75% quartile IF	2.07	1.98	1.95	2.18	2.49	2.55	2.72	2.76	2.44	2.53
<b>Non-English-language journals</b>										
No of journals	11	10	10	11	11	11	11	12	19	27
Non-English:all journals	12.4%	10.8%	10.6%	11.7%	11.3%	11.3%	11.2%	11.4%	14.6%	18.0%
Median IF	0.33	0.35	0.32	0.31	0.36	0.34	0.36	0.46	0.42	0.29
25% quartile IF	0.22	0.30	0.26	0.25	0.26	0.28	0.28	0.32	0.16	0.13
75% quartile IF	0.40	0.40	0.44	0.47	0.41	0.45	0.48	0.60	0.51	0.47
<b>Multi-language journals</b>										
No of journals	8	8	8	8	8	8	8	9	9	9
Multi:all journals	9.0%	8.6%	8.5%	8.5%	8.2%	8.2%	8.2%	8.6%	6.9%	6.0%
Median IF	0.36	0.36	0.37	0.38	0.76	0.67	0.74	1.16	1.19	0.70
25% quartile IF	0.31	0.28	0.34	0.31	0.34	0.34	0.33	0.56	0.51	0.52
75% quartile IF	0.60	0.58	0.55	0.78	1.08	1.09	1.18	1.28	1.23	1.40
<b>Total no of journals</b>	90	93	94	95	97	97	98	105	130	150

Median IF in 2010: 1.45 (English), 0.29 (non-English), 0.70 (Mixed)

# Getting listed in scientific databases

- In order to grow as an international journal, it is essential to get listed in databases such as Web of Science, Scopus and PubMed.
- It is very difficult for non-English-language journals to be included in such databases.
- **Web of Science**: Thomson Reuters, SCI, SCIE, SSCI, A&HCI, 17,240 journals (2014. 2.)
- **Scopus**: Elsevier, 20,912 journals (2014. 2.)

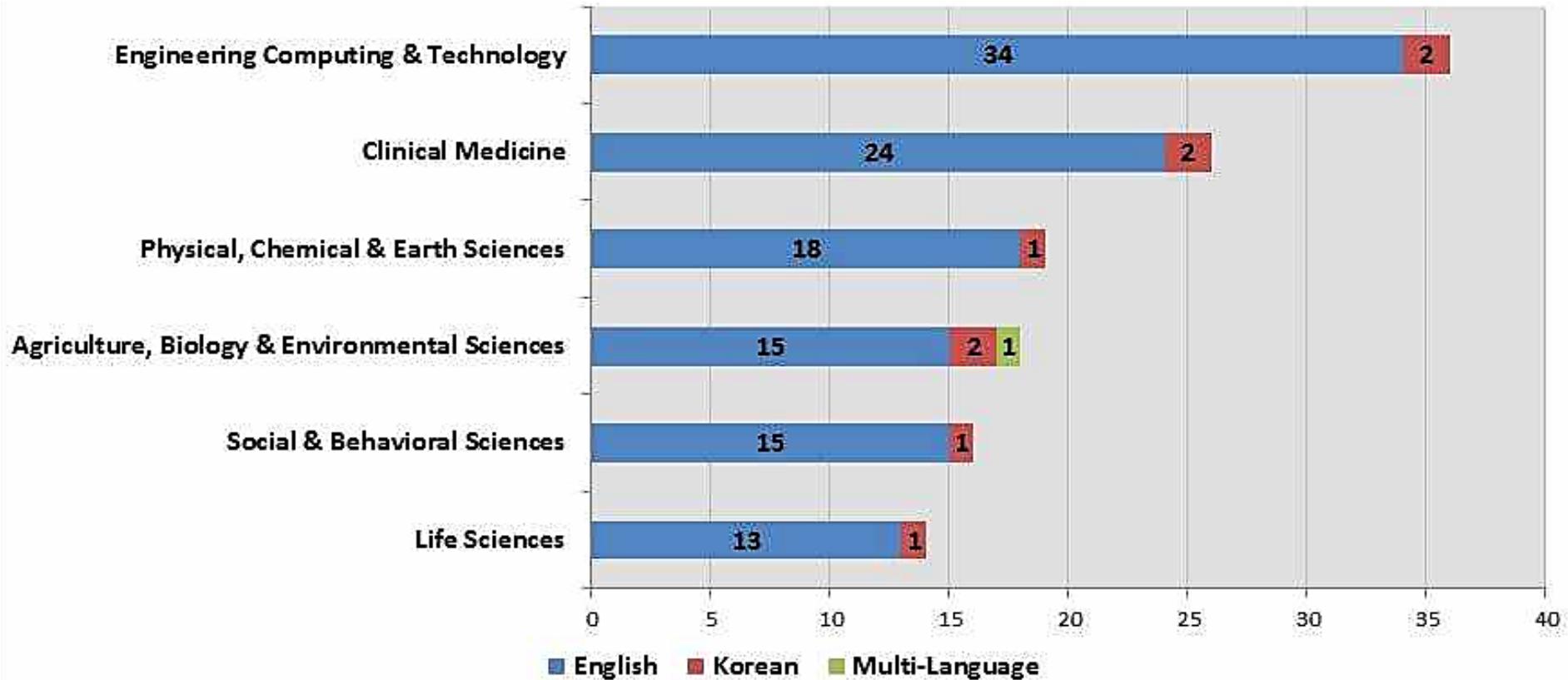
# Example: Web of Science



- Almost all newly added journals are published in English.

# Example

Journals published in Korea listed in Web of Science (2014)



# Globalized editing and publishing

## Advantages of publishing a science journal in English:

- It is possible to invite foreign scholars as editorial board members.
- Scholars all over the world are able to contribute their papers and read and cite them.
- The journal homepage can be produced through international companies.
- The detection of plagiarism using CrossRef is much easier.
- It is much easier to produce JATS XML files through international companies. The cost (\$1.5-3/page) is not high.
- It is easier to transform from JATS XML to CrossRef XML.
- Various other modern technological advances in information technology can be more easily adopted.

# CrossCheck

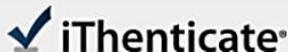
- **CrossRef**: Association of scholarly publishers that develops shared infrastructure to support more effective scholarly communications.
- CrossRef services: Cited-by Linking, CrossCheck, CrossMark, CrossRef Metadata Services, CrossRef Text and Data Mining, FundRef
- **CrossCheck** compares submitted manuscripts against a very large database of published papers and web pages, and provides editors with a summary report that highlights the similarity to previously published work. The publisher can then follow up to isolate and review the high-scoring papers as necessary. Plagiarism detection systems are only as effective as the amount and quality of the source content within them. CrossCheck's significant advantage over all other similar services is that it includes the indexed, full-text content of participating CrossCheck member publishers.

# Plagiarism detection using CrossCheck

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## Polystyrene-supported GaCl<sub>3</sub> as a highly efficient and recyclable heterogeneous Lewis acid catalyst for one-pot synthesis of *N*-substituted pyrroles

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### ABSTRACT

A new and environmentally friendly method for the preparation of *N*-substituted pyrroles from one-pot condensation reaction of aldehydes with amines and diamines in the presence of polystyrene-supported gallium trichloride (PS-GaCl<sub>3</sub>) as a highly active and reusable heterogeneous Lewis acid catalyst is presented. This new protocol has the advantages of easy availability, stability, reusability and eco-friendly of the catalyst, high to excellent yields, simple experimental and work-up procedure.

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### 1. Introduction

Functionally substituted pyrroles are an important class of nitrogen-containing heterocyclic compounds. They constitute the core unit of many natural products, synthetic materials, and serve as building blocks for porphyrin synthesis [1,2]. Members of this family have wide applications in medicinal chemistry, being used as anti-inflammatory, anti-inflammatory agents, antibacterial, and antiviral [3–5]. These compounds can be prepared from the classical Hantzsch procedure [6], 1,3-dipolar cycloaddition reactions [7], azo-Wittig reactions [8], annulations reactions [9], and other multistep operations [10]. Despite these new developments, the Paal-Knorr condensation remains one of the most significant and simple methods [14] consists the cyclocondensation of primary amines with substituted carbonyl compounds to produce *N*-substituted pyrroles. Several catalysts have been used to promote this reaction including HCl [11], *p*-TSA [12], H<sub>2</sub>SO<sub>4</sub> [13], Sc(OTf)<sub>3</sub> [14], B(NO<sub>2</sub>)<sub>3</sub>·5H<sub>2</sub>O [15], SnCl<sub>2</sub>·2H<sub>2</sub>O [16], Ti(OPr)<sub>4</sub> [17], RuCl<sub>3</sub> [18], InCl<sub>3</sub>, InBr<sub>3</sub>, In(OTf)<sub>3</sub> [19], zeolite [20], Al<sub>2</sub>O<sub>3</sub> [21], montmorillonite K10 [22], silica sulfuric acid [23], layered zirconium phosphate and phosphonate [24], montmorillonite [25], montmorillonite KSF-clay and I<sub>2</sub> [26]. Additionally, the above cyclocondensation process could proceed in ionic liquid [27] or ultrasonic and microwave irradiation [28]. However, despite the potential utility of these catalysts, many of

these methodologies for the synthesis of pyrroles associated with several shortcomings such as low yields, prolonged reaction time, harsh reaction conditions, the requirement of excess of catalysts, the use of toxic and detrimental metal precursors as catalysts, and relatively expensive reagents and high temperature, and tedious work-up leading to the generation of large amounts of toxic metal-containing waste. The main disadvantage of almost all existing methods is that the catalysts are destroyed in the work-up procedure and their recovery and reuse is often impossible, which limits their use under the aspect of environmentally benign processes.

Heterogeneous supported catalysts have been gained much attention in recent years, as they possess a number of advantages in preparative procedures [29,30]. Immobilization of catalysts on solid support improves the available active site, stability, hygroscopic properties, handling, and reusability of catalysts which all factors are important in industry [31]. Therefore, use of supported and reusable catalysts in organic transformations has economical and environmental benefits. A large number of polymer supported Lewis acid catalysts have been prepared by immobilization of the catalysts on polymer via coordination or covalent bonds [32]. Such polymeric catalysts are usually as active and selective as their homogeneous counterparts while having the distinguishing characteristics of being easily separable from the reaction mixture, recyclability, easier handling, non-toxicity, enhanced stability, and improved selectivity in various organic reactions. Polystyrene is one of the most widely studied heterogeneous and polymeric supports due to its environmental stability and hydrophobic nature

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### Match Overview

1	CrossCheck 135 words Liang Wang. "Polystyrene-supported AlCl <sub>3</sub> : A highly active and reusable heterogeneous catalyst for the one-pot synthesis of <i>N</i> -substituted pyrroles", <i>Journal of Macromolecular Science</i> , 2011, 48(12), 1234–1240.	3%
2	CrossCheck 131 words Chen, J.. "An approach to the Paal-Knorr pyrroles synthesis catalyzed by Sc(OTf) <sub>3</sub> under solvent-free conditions", <i>Tetrahedron Letters</i> , 2011, 52(12), 1234–1238.	3%
3	CrossCheck 113 words Borujeni, K.P.. "Synthesis and application of polystyrene supported aluminum triflate as a new polymeric Lewis acid catalyst", <i>Journal of Polymer Science Part A: Polymer Chemistry</i> , 2011, 49(12), 1234–1240.	2%
4	CrossCheck 91 words Liang Wang. "Polymer-supported zinc chloride: a highly active and reusable heterogeneous catalyst for one-pot synthesis of <i>N</i> -substituted pyrroles", <i>Journal of Polymer Science Part A: Polymer Chemistry</i> , 2011, 49(12), 1234–1240.	2%
5	CrossCheck 76 words Ali Rahmatpour. "An efficient, high yielding, and eco-friendly method for the synthesis of 14-aryl- or 14-alkyl-14H-dibenzopyrroles", <i>Journal of Polymer Science Part A: Polymer Chemistry</i> , 2011, 49(12), 1234–1240.	2%
6	CrossCheck 73 words Ran Ruicheng. "Polymer-Supported Lewis Acid Catalysts: Synthesis and Application of Polystyrene-Gallium Trichloride Complex", <i>Journal of Macromolecular Science</i> , 2011, 48(12), 1234–1240.	2%
7	CrossCheck 54 words Karimi, B.. "Solid silica-based sulfonic acid as an efficient and recoverable interphase catalyst for selective tetrahydroindole synthesis", <i>Journal of Polymer Science Part A: Polymer Chemistry</i> , 2011, 49(12), 1234–1240.	1%
	CrossCheck 53 words	

# Summary

- In order to develop a local science journal into an international journal with high impact, it is essential to publish it in English.
- When published in English, papers can be read and cited by more people in the world.
- The editorial board can be made multinational and foreign authors can contribute.
- Plagiarism can be more easily found by using CrossCheck.
- Modern technological advances can be more easily adopted.