17 recipes for publishing in the top journals

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Abstract—**This paper shows how to publish in the top journals including weekly Science magazine [1]. Researchers, scientists, or engineers would like to publish their contributions in top journals with high impact factors. In this paper more than dozen recipes are proposed for publishing two kinds of manuscripts. One is for publishing a peer-reviewed research manuscript which presents a new method. The other is for publishing a commentary manuscript where our comment refers to the published authoritative paper. The proposed recipes are demonstrated by publishing more than dozen online commentary e-letters in Science magazine within five months.**

Keywords—top journals, impact factor, weekly magazine, Science magazine, peer-reviewed manuscript, commentary manuscript

I. WHAT IS THE IMPACT FACTOR?

Wikipedia states that the impact factor (IF) or Journal impact factor (JIF) of an academic journal is a measure reflecting the yearly average number of citations to recent articles published in that journal [2]. The impact factor IF_y is computed by the following equation where y is year:

$$IF_y = \frac{Citations_{y-1} + Citations_{y-2}}{Publications_{y-1} + Publications_{y-2}}$$

For example, y=2016,

$$IF_{2016} = \frac{Citations_{2015} + Citations_{2014}}{Publications_{2015} + Publications_{2014}}$$

Researchers, scientists, or engineers would like to publish their results in the top journal with the high impact factor. Table 1 shows the list of general scientific journals with high impact factors.

II. RECIPES FOR PUBLISHING IN THE TOP JOURNALS

We have experimented this project since Oct. 2016. We were asked to give lectures on security/IoT/artificial intelligence. In the first lecture, the significant problem on connected vehicles security was given. Before disclosing the connected vehicles security problem (CAN-bus) in the lecture to students and faculty of University of Jyvaskyla in Finland, the short paper was submitted to Science. After returning from Finland to Japan, we have received the following letter from Science editor:

...Thank you for sending a Letter to Science. We have read your contribution but will not be able to publish it. We invite you to leave an online e-letter instead. To do so, go to www.sciencemag.org and find the published paper to which your comment refers. Then click e-letter to submit. Excerpts from e-letters are occasionally published in the print Letters section of Science....

From this invitation, we have noticed the existence of e-Letter which is one of categories of manuscripts in Science. In order to publish our paper as e-letter of Science, we need to find the published paper on autonomous vehicles in Science. Fortunately, we have found the paper which our comment refers. We have resubmitted the revised short commentary paper to Science e-letters.

In this paper, **the first recipe** adopted is to discuss a new story where we disclosed the vehicle security issue, while the referred paper did not discuss it.

The revised e-letter is entitled " Black box is not safe at all " accepted and published on Oct. 20, 2016 [3]:

http://science.sciencemag.org/content/352/6293/1573/tab-e-letters

Since this publication, we have practiced publishing more than dozen papers to Science within the short period.

A peer-reviewed research manuscript (**Report:** less than 3 pages) entitled, " A near-optimum parallel planarization algorithm," was published in 1989 in Science which is the world first paper on neural network applications [4]:

http://science.sciencemag.org/content/245/4923/1221

Table 1 list of general scientific journals with impact factors

Journal	Publishing since	Impact factor	Open access
Nature	1869	38.1	no
Nature communications	2010	11.5	yes
PLOS ONE	2006	3.2	yes
Proceedings of the National Academy of Science	1914	9.7	partial
Science	1880	33.6	no
Science Advances	2015	na	yes

The second recipe is very simple where we must compare our result with that of the world class research groups. There is no Nobel Prize on computer science research. However, there is a Turing Award on computer science. We have compared our result with that of the improved algorithm derived from Turing Award research group using the same benchmark problem. It took less than two weeks to experiment and obtain the result to submit the first paper to Science. Our first paper was submitted on May 30, 1989 and accepted on July 25, 1989.

The peer-reviewed research manuscript with less than five pages is called **Research Article** in Science.

Commentary manuscripts include **Technical Comment** (less than 1000 words), **Letters** (less than 300 words) discuss material published in Science within the previous 3 months.

Other commentary manuscripts include:

Perspectives (less than 1000 words plus 1 figure) which highlight recent exciting research,

Policy Forum presents issues related to the intersections between science and society that have policy implications,

Education Forum presents essays on science education and its practice from pre-college to graduate work,

Books or Media Review feature smart commentary on new books, films, exhibitions, performances, mobile applications, podcasts, and other media that are likely to be of broad interest to our readership.

e-Letters Brief online comments can be submitted on papers or news stories published in Science. e-Letters are submitted on the Science website, evaluated, and posted with the article if accepted.

Two small companies in Japan have asked us to publish their unique technology in the top journal. We have to patiently wait until we could find the referred authoritative paper published in Science. One small company deals with water pipe repairing business. It was extremely hard for us to publish their technology in Science, because we have not found any water pipe repairing papers published in Science.

However, we have **the third recipe**. To publish in the top journal, we should prepare for an important keyword which is used in the authoritative paper published in Science. The keyword bridges between two papers: published authoritative paper in Science and our commentary paper. Fortunately, we have found the referred authoritative paper on the friction of confined water published in Science. The keyword is "friction of confined water" in our paper.

We have submitted e-letter entitled "Confined unfrozen water plays a key role for water pipe repairs" on March 14, 2017 and the e-letter was accepted and published on May 16, 2017 where it took more than 2 months [5].

http://advances.sciencemag.org/content/2/8/e1600763/tab-e-letters

The other small company deals with eco-film business for saving electronic energy. We have found the referred paper on "cooling power" where the keyword is "cooling film". In our paper entitled "Cooling power can be improved by overlaying metamaterials", the new method for improving cooling power is proposed [6]:

http://science.sciencemag.org/content/355/6329/1062/tab-e-letters

The fourth recipe is to propose a new idea to resolve the problem in the referred authoritative paper. In the referred paper, instability of green energy was described.

We have proposed a paper entitled "Magma energy power plant" for overcoming the problem of green energy [7]:

http://science.sciencemag.org/content/355/6329/1001/tab-e-letters

We have submitted four e-letters on artificial intelligence. There was a special issue on machine learning in Science. We have published two papers:"Ensemble methods can improve election prediction" [8] and "Ensemble methods significantly improve prediction" respectively [9] respectively.

http://science.sciencemag.org/content/355/6324/515/tab-e-letters

We have introduced the ensemble method where in the referred authoritative paper did not use it. In addition to the new method which can improve the result, we described our experience of artificial sommelier for red-wine. **The fifth recipe** is to show a new idea with our experiences.

E-letter [10], entitled "Statistical syllogism and deductive syllogism in software packages" corrects misunderstanding of authors in the referred authoritative paper. In the paper the cognition of abstraction and modularity is used in open source development so that nobody understands the software packages fully. **The sixth recipe** is to correct misunderstandings in the referred paper.

http://science.sciencemag.org/content/355/6324/468/tab-e-letters

E-letter [11], entitled "Inductive and deductive reasoning must be merged for enhancing prediction and breaking its limits" depicts the future direction of artificial intelligence which was not discussed in the referred paper. **The seventh recipe** is to show the future direction.

http://science.sciencemag.org/content/355/6324/468/tab-e-letters

The eighth recipe is to discuss the disadvantages for advancing the referred technology. E-letter [12] is entitled " Problems of photovoltaics solar energy".

http://science.sciencemag.org/content/356/6334/141/tab-e-letters

In Book reviews, we shared with the similar conclusion with our experiences **(the ninth recipe)**. The paper [13] is entitled " Amateurism is the mother of invention**.**

http://science.sciencemag.org/content/356/6334/144/tab-e-letters

The tenth recipe is to use the experienced syllogism using important information from history. The paper [14] is entitled "The large government funds should be shared with many researchers".

http://science.sciencemag.org/content/356/6334/123/tab-e-letters

The eleventh recipe is to use deductive syllogism using authoritative papers. The paper [15] is entitled "Infrasound monitoring is needed for investigating noise pollution".

http://science.sciencemag.org/content/356/6337/531/tab-e-letters

The twelfth recipe is to find the missing issues in the paper. The authoritative paper only mentioned on H-1B visa. E-letter points the missing issues of the authoritative paper. The paper [16] is entitled "J1, H-2B, L1, B1, E2, TN1, and E3 are all nonimmigrant visas for temporary working in the US".

http://science.sciencemag.org/content/356/6339/695.1/tab-e-letters

The thirteenth recipe is to show facts for reasoning the conclusion. NIH will use a new policy for evaluating research groups. The paper [17] shows why the new policy is wrong for evaluation.

http://science.sciencemag.org/content/356/6342/997/tab-e-letters

The fourteenth recipe is to show contradictory facts. The paper [18] shows the contradictory facts in the paper entitled "Déjà vu for U.S. and Japan nuclear waste":

http://science.sciencemag.org/content/356/6345/1313/tab-e-letters

The fifteenth recipe is to show a new idea in order to improve the solution. The paper [19] shows how to improve the weather forecast prediction:

http://science.sciencemag.org/content/357/6347/118/tab-e-letters

The sixteenth recipe is to find the similar circumstance mentioned in the referred paper. BMI (brain-machine-interface) devices allow paralyzed people to enhance the human abilities using sensors and actuators where some of the abilities may be more than normal. Connected BMI devices and connected vehicles face the same security problem where we must protect against jamming/spoofing sensor attacks. The paper [20] describes the critical security issues:

http://science.sciencemag.org/content/356/6345/1338/tab-e-letters

The seventeenth recipe is to find overstatements and to describe the missing issues described in the referred paper. The paper [21] is an example of the seventeenth recipe:

http://science.sciencemag.org/content/357/6346/16/tab-e-letters

III. SUMMARY OF RECIPES

In this sections, all recipes are summarized for publishing in the top journals:

The first recipe is to discuss a new story.

The second recipe is to compete with the world authoritative research group.

The third recipe is to use the same keyword used in the referred paper.

The fourth recipe is to propose a new idea to resolve the problem of the referred paper.

The fifth recipe is to show a new idea with our experiences.

The sixth recipe is to correct misunderstandings in the referred paper.

The seventh recipe is to show the future direction.

The eighth recipe is to discuss the disadvantages for advancing the referred technology.

The **ninth recipe** is that we shared with the similar conclusion with our experiences.

The **tenth recipe** is to use the experienced syllogism.

The **eleventh recipe** is to use deductive syllogism using authoritative papers.

The **twelfth recipe** is to find/describe the missing issues in the paper.

The **thirteenth recipe** is to show facts for reasoning the conclusion.

The **fourteenth recipe** is to show contradictory facts.

The **fifteenth recipe** is to show a new idea for improving the solution.

The **sixteenth recipe** is to find the similar circumstance mentioned in the referred paper.

The **seventeenth recipe** is to find overstatements and to describe the missing issues described in the referred paper.

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