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# How to successfully contribute to the world of scientific publishing

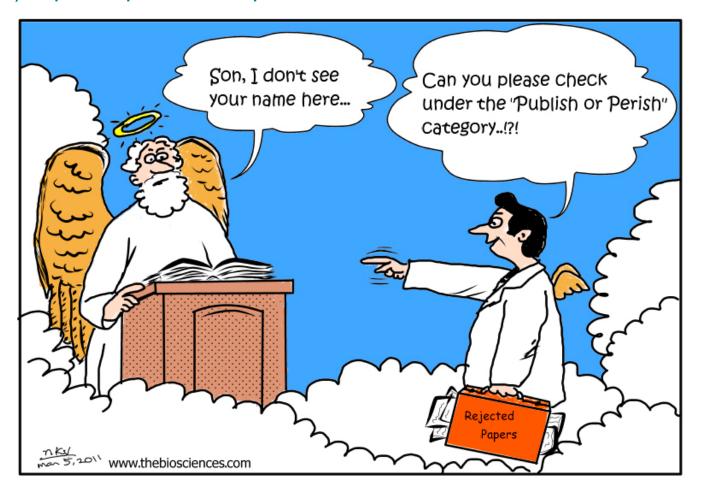


Prof. dr. Henrik Rudolph
Editor-in-Chief Applied Surface Science

鲁道夫

### Publish or Perish or is it Publish until you Perish?

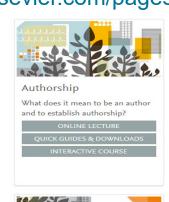
The (self) imposed pressure to publish



### The "ground rules" of scientific publishing

https://www.publishingcampus.elsevier.com/pages/63/ethics/Publishing-ethics.html

(Good) science Science ethics Authorship Ownership of material Conflict of interest Publishing ethics Salami publishing **Duplicate submissions** Fair peer reviewing Research fraud

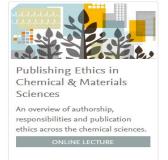










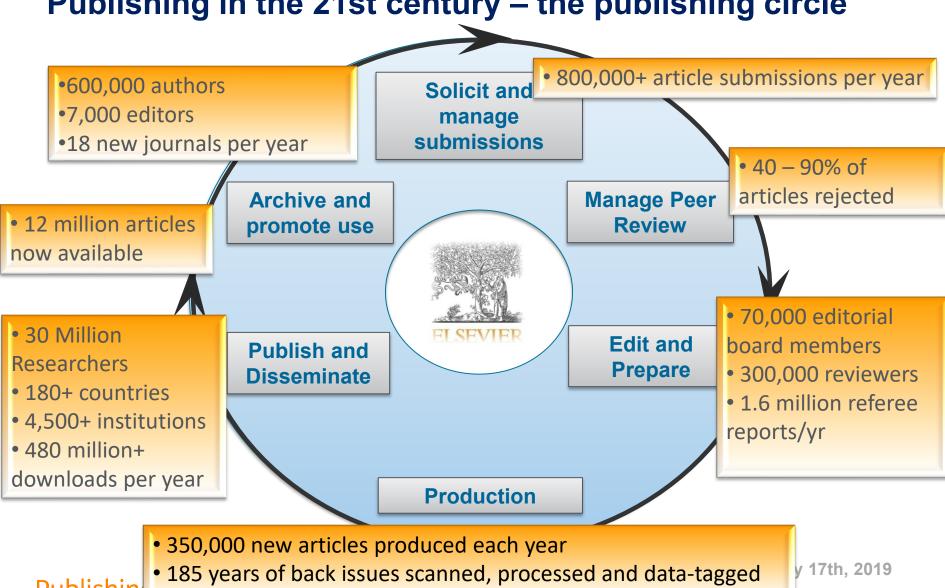






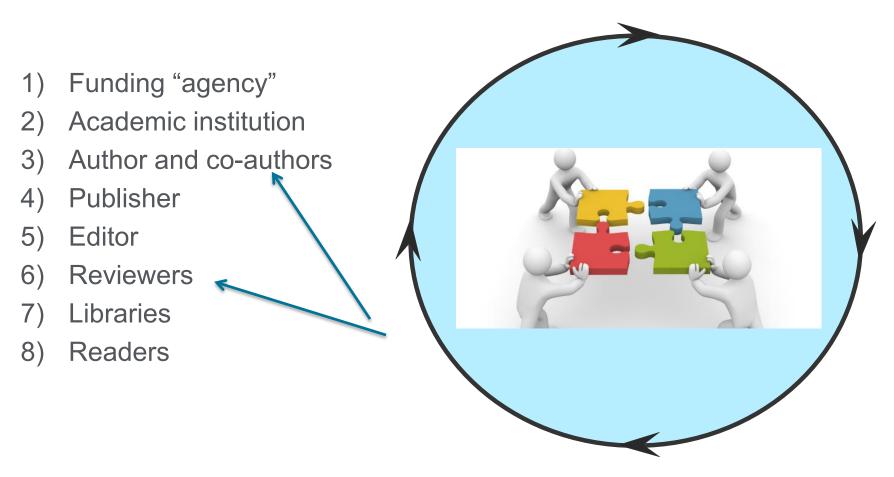


Publishing in the 21st century – the publishing circle



### Stakeholders in the publishing circle

They all have a responsibility in the process



### How to publish in a scientific journal

Becoming the (first) author of a manuscript

- ➤ What steps do I need to take before I write my paper?
- **➤ Type of manuscript**
- ➤ How can I ensure I am using proper manuscript language?

- ➤ How do I structure my article properly?
  - Process
  - Article Construction

### Publishing a paper: step 1

Choosing the right journal!

A journal always has an "Aims and Scope", a text that describes the goal of the journal:

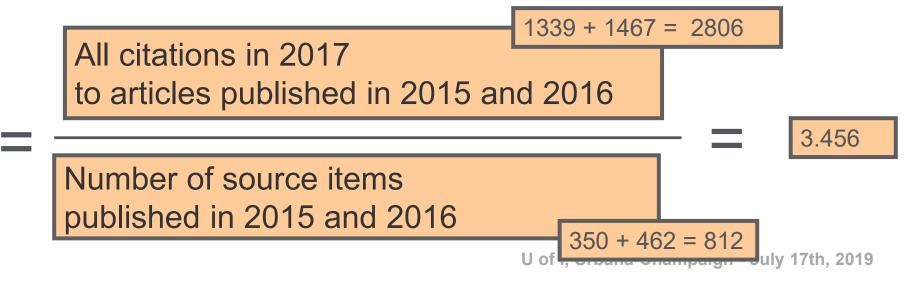
- Subject
- Audience
- Type of articles
- Quality or coverage of field
- Association with group

### The right journal – only the best for you

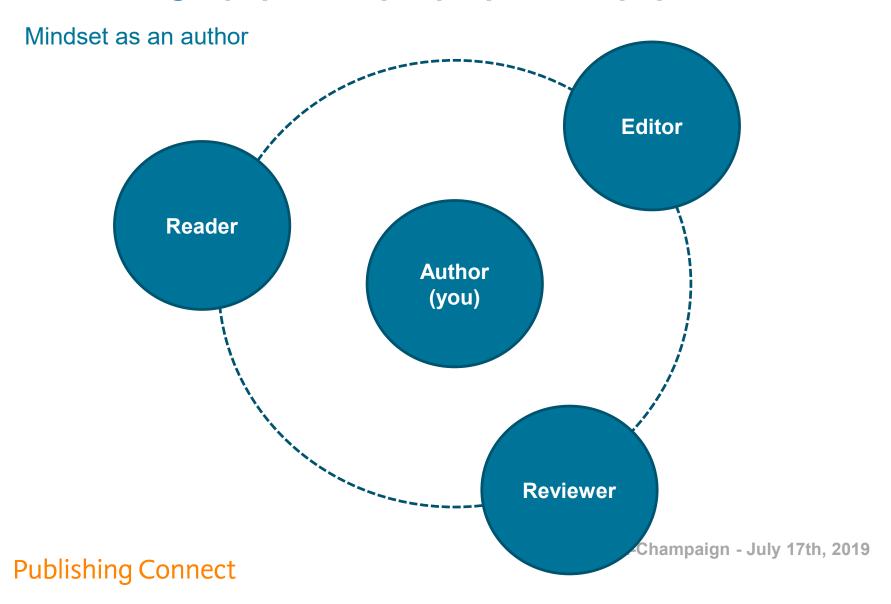
#### The role of quality indicators

-Quality of journal can be reflected by its impact factor (IF): the average number of times articles from a journal published in the past two years have been cited in the current year

-Example: IF of a journal in 2017:



### Publishing a paper: Step 2 prepare the paper



### Publishing – what constitutes a strong paper?

- ► Has a <u>clear</u>, <u>useful</u>, and <u>exciting</u> message
- ➤ Presented and constructed in a <u>logical</u> manner
- > Reviewers and editors can grasp the significance easily

Editors and reviewers are all busy people – make things easy to save their time

### Decide the most appropriate type of manuscript

The many flavours of paper types

- ➤ Conference Papers
- ➤ Short communications/letters
- ➤ Full articles/Original articles
- Review papers (often only by invitation)
- Perspective papers (often only by invitation)

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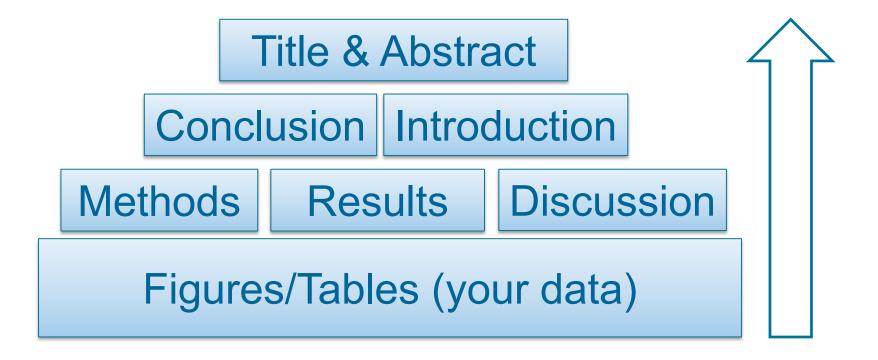
### General structure of a research paper







### **Building the manuscript – bottom up**



### **Preparing for submitting the paper**

- Check the manuscript as thoroughly as possible before submission
- Ask colleagues and supervisors to review your manuscript

Finally - SUBMIT your manuscript with a proper cover letter and await a response...

### After submission – the waiting game

- ➤ Generally editors do a first check (topic, language, completeness,...). They are allowed to desk-reject.
- After initial check, they will send out for review, usually to a few reviewers. Review process takes several weeks. Many invited reviewers decline invitation, adding to review times.
- > Editor receives reviewer reports and takes a decision based on them.
- In case of doubt, they may consult another referee or review themselves.
- Editor informs author

#### **Editorial decision**

# **Accepted**

Very rare, but it happens





### **Revision major/minor**

 There is a chance that the paper will be published eventually

### Rejected

Probability 40-90% ...



Do not despair

 If you submit to another journal, begin as if it were a new manuscript

U of I, Urbana-Champaign - July 17th, 2019

### **Editor decision: revision (minor/major)**

- Carefully study the reviewers' comments, adjust your manuscript and prepare a detailed letter of response
- Respond to all points; even if you disagree with a reviewer. Provide a scientifically solid rebuttal, not ignore their comment
- > State specifically what changes you have made to address the reviewers' comments, mentioning the page and line numbers where changes have been made
- Perform additional experiments, calculations or computations, if required; these usually serve to make the final paper stronger

| 19

### Author responsibility - academic misconduct



doi:10.1016/j.sigpro.2005.07.019 ② Cite or Link Using DOI Copyright © 2005 Elsevier B.V. All rights reserved.

#### RETRACTED: Matching pursuit-based approach for ultrasonic flaw

N. Ruiz-Reyes<sup>a, M</sup>, P. Vera-Candeas<sup>a, M</sup>, J. Curpián-Alonso<sup>a, M</sup>, J.C. Cuevas-Martinez<sup>a, M</sup> and F. Ló<sub>l</sub>

Available online 24 August 2005.

This article has been retracted at the request of the Editor-in-Chief and Publisher. Please see <a href="http://www.elsevier.com/locate/withdrawalpolicy">http://www.elsevier.com/locate/withdrawalpolicy</a>.

Reason. This article is virtually identical to the previously published article: New matching pursuit-bas algorithm for SNR improvement in ultrasonic NDT", Independent Nondestr.....\_\_\_\_\_nd Evaluation
International volume 39 (2006) 452 – 459 authored by N. Ruiz-Reyes, P. Vera-Candeas, J. Curpián-Alonso, R. Mata-Campos and J.C. Cuevas-Martínez.

The article of which the authors committed plagiarism: it won't be removed from ScienceDirect. Everybody who downloads it will see the reason of retraction...

the echoes issuing from the flaws to be detected. Therefore, it cannot be cancelled by classical time averaging or matched band-pass filtering techniques.

Many signal processing techniques have been utilized for sigmal-to-noise ratio (SNR) improvement in ultrasonic NDT of highly scattering materials. The most popular one is the split spectrum processing (SSP) [1-3], because it makes possible real-time ultrasonic test for industrial applications, providing quite good results. Alternatively to SSP, wavelet transform (WT) based denoising/detection methods have been proposed during recent years [4-8], yielding usually to higher improvements of SNR at the expense of an increase in complexity. Adaptive time-frequency analysis by basis pursuit (BP) [9,10] is a secent technique for decomposing a signal into an optimal superposition of elements in an overcomplete waveform dictionary. This technique and some other related techniques have been successfully applied to denoising ultrasonic signals of taminated with grain noise in highly scatteri materials [11,12], as an alternative to the W technique, the computational cost of Bi algorithm being the main drawback

In this paper, we propose a coef morbing pursuit-based signal processes beare of our morpowing SNR in ultrasco NDT to highly scattering materials, such that and does assist. Marching pursuit is used instead of BP to reduce the complexity. Desire its itemate mature, the method is fast on right to be real-time implementation. The performance of the proposed method his been evaluated in most of computer simulation and exposure of the latest of the performance of the when the imput. SNR in Nikel is lower an odB (the level of echecicative constructures is above the level of echecicative constructures is above the level of echecicative.

#### 2. Matching pursuit

Matching pursult was introduced by Mailat and Zhang [13]. Let us suppose an approximation of the ultrasonic backsontered signals s[n] as a linear expansion in terms of functions g\_[n] chosen from an over-complete dictionary. Let H be a Hilbert space. We define the over-complete dictionary as a family  $D=\{g;\ i=0,1,\ldots,L\}$  of vectors in H, such as  $\|g_i\|=1$ .

The problem of choosing functions g[n] that their approximate the analysed signal [n] is computationally very complex. Marching pursuit is an iterative algorithm that offers sub-optimal solutions for decomposing of all the areas of expansion functions choose from a dit course, where it nome is used as for an accommand on metric because of its mathems fail occurrence. When a well-designed diction y is used in so, sing pursuit, the non-linear nature of the algorithm leads

to compact a for two well mode? In each or to of the in-right procedure, vector  $g_i[n]$  which  $g_i$  who largest mer product with the analysed signal is a cose. The contribution of this vector then subot and from the signal and the process is recented on the residual. At the with iteration the hidde is

$$[n] \begin{cases} x[a] & m = 0, \\ +^{1}[n] + \alpha_{\text{div}(\hat{\mathbf{x}}) \mapsto \hat{\mathbf{x}}}[n], & m \neq 0, \end{cases}$$
(1)

where  $\alpha_{(m)}$  is the weight associated to optimum atom  $g_{(m)}[n]$  at the with iteration.

The weight  $q^n$  associated to each atom  $g_i[n] \in D$ at the with iteration is introduced to compute all the inner products with the residual  $r^n[n]$ :

$$a_i^m = \frac{(r^m[a], g_i[a])}{(g_i[a], g_i[a])} = \frac{(r^m[a], g_i[a])}{\|g_i[a]\|^2}$$
  
 $= k^m[a], g_i[a].$  (2)

The optimum atom  $g_{(q,q)}[n]$  (and its weight  $\alpha_{(q,q)}$ ) at the with iteration are obtained as follows:

$$g_{i(m)}[n] = \arg\min_{i \in D} ||r^{m+1}[n]||^2$$

$$= \operatorname{argmax}_{a \in B} |a_i^m|^2 = \operatorname{argmax}_{a \in B} |a_i^m|. \tag{3}$$

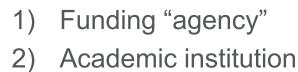
The computation of correlations  $(r^m[a], g, [a])$  for all vectors g[a] at each iteration implies a high computational effort, which can be substantially reduced using an updating procedure derived from Eq. (1). The correlation updating procedure [13] is performed as follows:

$$\langle r^{m+1}[n], g[n] \rangle = \langle r^{m}[n], g_{i}[n] \rangle$$
  
 $= \alpha_{i(n)} \langle g_{j(n)}[n], g_{i}[n] \rangle.$  (4)

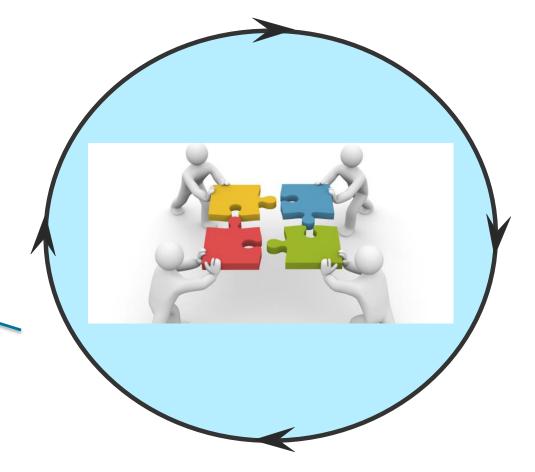
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### Stakeholders in the publishing circle

They all have a responsibility in the process



- 3) Author and co-authors
- 4) Publisher
- 5) Editor
- 6) Reviewers
- 7) Libraries
- 8) Readers



### Why do we need peer-review?

Peer review is the evaluation of work by one or more people of similar competence to the creators of the work (peers)

**Peer-review** is used to assess the <u>quality</u>, <u>significance</u> and <u>originality</u> of scientific research before publication.

- provide credibility
- improve the record of science
- control in scientific communication
- ensures that previous work is acknowledged



### **Step by Step**

A guide how to become a good peer reviewer

### Before accepting the invitation, you should ask yourself

- Am I truly a peer, i.e., do I have the necessary expertise in the field
- I don't have a possible conflict of interest
- Will I be able to make the review in time

If the answer to all of the above is yes, the you should accept the invitation to review

### So why should I be a reviewer

It takes valuable time away from my own science, right?

- ✓ Academic duty expect to review about two times as many papers as you publish yourself
- ✓ Access to new results prior to publication
- ✓ Networking within the scientific community.
- ✓ Influence on the science and scientific quality
- ✓ Recognition by (some) governments
- ✓ Access to Scopus/Science Direct for a month (Elsevier specific)

### **General impression and abstract**

- Look at the manuscript as a whole
  - General comprehension of the manuscript
  - Language/style/grammar
  - Structure
  - Reviewer's general level of enthusiasm
- Is the Abstract included?
  - Is it a real summary of the paper?
  - Does it include the key results
  - Does it contain unnecessary information?
  - Is it too long? Journals set a limit for the number of words

### Introduction

- Is it effective, clear, and well organized?
- Does it really introduce and put into perspective what follows?
- Suggest changes in organization and point authors to appropriate citations if necessarily
- Be as specific as possible when giving feedback
  - Don't just write "the authors have done a poor job"

### **Assessing the methodology**



- Would a colleague be able to reproduce the experiments and get the same outcome?
- Is the description of new methodology complete and accurate?
- Did the authors include proper references to previously published methodology?
- Is the sample size large enough and was it selected in an appropriate way?
- Was the data collected in accordance with accepted practice?
- Could or should the authors have included supplementary material?

### Results and discussion

- Suggest improvements in the way data is shown
- Comment on general logic and on justification of interpretations and conclusions
- Comment on the number of figures, tables, and schemes
- Write concisely and precisely which changes you recommend
- List suggested style/grammar changes and other small changes separately
- Suggest additional experiments or analyses
- Make clear the need for changes/updates
- Ask yourself whether the manuscript is worth being published

### **Assessing the conclusions**

- Comment on importance, validity, and generality of conclusions
- Request toning down of unjustified claims and generalizations
- Request removal of redundancies and summaries
- The Abstract, not the Conclusion, summarizes the study

### References, tables, and figures

- Check accuracy, number, and appropriateness of citations
- Comment on tables and figures, and their quality and readability
- Comment on any footnotes
- Assess completeness of legends, headers, and axis labels
- Comment on need for color in figures
- Check presentation consistency

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### **Tools for reviewers (and editors)**

### **For Editors** For Reviewers Plagiarism detection tool at time Free access to of submission All content published by Elsevier Tool based on Scopus database Free access to to identify potential reviewers The world's largest abstract and citation database Manuscript Click here to view linked References Reference-linking and resolution in PDF of the manuscript

### Editors' view: what makes a good reviewer?

- Provides an objective, thorough, and comprehensive report
- Provides well-founded comments for authors
- Gives constructive criticism
- Provides a clear recommendation to the Editor
- Submits the report on time

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