# Tips for Successful Scientific Publishing

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Why publish?

How do I write?

Which journal?

How do I submit?

How is it processed?

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# Why should I publish my research results?

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#### 1.1. Why should I publish my research?

Why publish?

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#### Should I publish my research?

YES, Definitely YES... From cavemen to Homer, to today, people always liked to tell their stories!

By drawing them by singing them, or by writing them....



What makes humans unique is that we can pass knowledge between generations and the most effective way of doing that, **is by writing**!

#### We are Storytellers!!

Why?

To help communicate our ideas in the best and clearest possible way (and get my PhD...)



#### **1.2. A successful example**

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#### Good Example: The story of the 3 little pigs and the big bad wolf

Why is it so successful?

- Great title fully indicative
- Introduction, main section (suspense?)
- Conclusions (do not built with straw, if there are wolves...)
- It is simple, so everyone can understand it
- You can only say it once to grownups (otherwise boring)
- Short, does not last for 20 episodes

(We will discuss all these in the following sections...)

#### We are Storytellers!!

The story of the 3 little wolves and the big bad pig, is in courts on grounds of plagiarism!

#### 1.3. Not publish?

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#### I did not want to publish my results

To tell you the truth, when I finished my PhD in Chemical Engineering ICL in 1980, I did not want to publish my work...

I only wanted to return to Greece and work in my father's small business and make a living!

Little did I know....



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## How do I write a good (or any) paper?

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#### Why oublish?

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#### Advice 1/5:

- Don't wait: write
- Identify your key idea
- Tell **one** story (remember the 3 little pigs...)
- Raise Flags with contributions
- Related work: later
- Put your readers first

#### TWO POINTS straight from the beginning:

- 1) Write in GOOD English! (or ask an English native speaker to help)
- 2) Identify clearly yourself (not J.Smith but Jonathan Smith (OrcID: 0000-0005-1234-5678)







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2. How do I write a good paper?	General advice
Advice 2/5: Very easy, very useful advice:	$\star \star \star \star \star$
Do not write, or attemp	ot to write,
a REVIEW pap	er
unless you are a very experie	nced researcher!!
	Advice 2/5: Very easy, very useful advice: Do not write, or attemp a REVIEW pap



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#### General advice..

 $\star \star \star \star \star \star$ 

#### Advice 3/5:

#### Writing IS research.

It is how we formulate, crystallize, and communicate our ideas.

Make it a daily habit!

- Good papers are written, great papers are re-written, so get the first draft done asap. Just do it.
- Good papers leave the reader with one solution to solving a specific problem; great papers leave the reader with new ideas for their own problems.

submit?

How is it

How do

I write?

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#### General advice..

 $\star$   $\star$   $\star$   $\star$   $\star$ 

#### Advice 4/5:

#### Write to...

• ...discover/understand (for yourself)

Be precise in what you are trying to do. Use simple language. If you can't describe your idea in 2-3 simple sentences, maybe you don't understand it that well yourself. Work at it until you can.

#### • ...get accepted (for the reviewer)

Reviewers are the unpaid, overworked, gate-keepers of science. Don't waste their time. Reviewers usually have less than 1h per paper, sometimes only 30min. They are basically trying to answer the question "How can I justify rejecting this?" Get to the point!

Do not write your personal journey. Science is a random walk, but we tell it like a shortest path.

#### • ...enlighten (for the reader)

Academic writing is not like writing prose. There are no set ups, no surprises, and no punch lines. Doesn't mean it has to be dry, though! Tell the reader...:

 What you want to tell him; 2) Then tell him; and finally; 3) Tell him what you told him. This repetitive structure (general to specific to general) works very well at the level of sections, and papers.



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#### General advice..

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#### Advice 5/5:

#### My (ideal) process

- 1. Write a rough 2-4 sentence abstract first (what, why, how)
- 2. Write the Model/Instrument description next. This is easy, it's the idea/the instrument you're trying out.

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# 3. Then write the Experimental section (ie get the results). Add your results tables, create your graphs.

- 4. Then write the Discussion & Conclusion sections (what did we learn from this?)
- 5. Finally write the Introduction (expand #1 by framing the research question, and introducing relevant background work)
- 6. Write the Abstract last.

#### More specific

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#### More analytically, we can examine in turn...

2.1. Title

2.2. Authors

2.3. Abstract

2.4. Introduction

2.5. Main Story

2.6. Figures & Tables

#### 2.7. Conclusion

- Appendix
- Supplementary Materials

#### Note this structure applies to all disciplines

(remember before buying the story of the 3 little pigs you read the abstract in the back of the book...)

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### 2.1 Title

Why publish?

How do

I write?

#### The first thing an Editor-in-Chief sees...

The title must be

- Concise to the point
- Informative
- Within the research area of the journal
- Not very long
- Catchy??

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# EDITOR CHIEF

**More specific** 



#### **2.2 Authors**

#### More specific

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#### The next thing an Editor-in-Chief sees...

Examines whether he recognizes any names

- Use full names (not J. Smith, but Jonathan S. Smith)
- Do not forget any... (adding at the end of submission process, is not very good)
- Order not that important (usually student first, or whoever did most of the work)
- Corresponding Author most important not the first author...
  (The CA is the one that submits the manuscript and answers all questions)
- Make sure you include full affiliations and OrcID's (OrcID - Open Researcher and Contributor Identifier – orcid.com)
- It is VERY helpful, if Authors have Google Scholar profiles!!

EDITOR CHIEF

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#### **2.3 Abstract**

#### More specific

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#### The first thing an Editor-in-Chief reads...

- Do you have a clear problem statement in the abstract?
- It is clear from the paper?
- Can you write a research statement for your paper in a single sentence?

If a reviewer cannot form such a sentence for your paper after reading just the abstract, then your paper is usually doomed.

The "**one thing**" is stated in the first two lines of the abstract

#### ABSTRACT

The manuscript describes the development of a new formulation for the viscosity of heavy water that is consistent with a new equation of state adopted by IAPWS, and is valid for fluid states up to 775 K and 960 MPa with uncertainties ranging from 1% to 5% depending on the state point. Comparisons with experimental data and with a previous viscosity formulation are presented. The new formulation contains terms for the enhancement of viscosity in a small region near the critical point that were not included in previous formulations. The new formulation is applicable over a wider range of conditions than previous correlations.

contributions are clear and easy to enumerate



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Check your text with an English native speaker!! (Probably not you....)



#### **2.4 Introduction**

#### More specific

#### 1/2 Opening

Consider the opening sentence of this introduction:

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"Nanofluids have gathered a lot of interest recently. Employing nanofluids in heat transfer is a very popular subject. We therefore examined ..."

**<u>Reviewer</u>**: This was your one chance to convince me of the problem you're working on. And now you told me you're working on it because it is popular...

It is surprising how many papers use this kind of opening as reason.

 Make sure your Introduction presents a very good picture of the state of the art, and progress so far in the scientific area of your paper.
 Not too long, not too short, not heavy, not light... just right amount!

Check your text with an English native speaker!! (Probably not you....)



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	2.4 Introduction	More specific
Why	2/2 Verifiable	
publish?	A paper claims:	
How do	"To the best of our knowledge, this is most sophisticated neur mentioned in the literature."	al network solution ever
I write?	<b>Reviewer</b> : What problem does it solve? What is the ben "sophistication"	chmark? I can't measure
Which journal?	Be concise stay closely to the area of your paper	
How do I submit?		
How is it processed?		
Success		ACCEPTO
	Check your text with an English native speaker!! (Probably	not you)



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#### 2.5 Main Story

#### More specific

#### 1/3 Always ask yourself

For every line in your paper, ask questions about your reader's mental model:

- 1. What does my reader understand up to this point?
- 2. What is my reader thinking at this point?
- 3. How will my next narrative change that?

How do

I write?

How do I submit?

How is it

## **Reviewer** should never think "So far, I understand some things. One thing is currently "top of mind". Some things already worry me..."

4. Be concise.. to the point

#### 5. SHORTER IS BETTER!!

Check your text with an English native speaker!! (Probably not you....)



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#### 2.5 Main Story

#### More specific

#### Why publish?

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#### 2/3 Keep a flowing story line

- You have to convince the reader to keep reading at every paragraph. Do not assume that the reader wants to read your paper, or that they will read all of it.
- E.g. Before switching sections, always have the last paragraph of the previous one introduce it. More importantly, explain why the next section is needed.
- Don't confuse or frustrate your readers, by...
  - Switching context "midway"
  - Using undefined notation
  - Changing notation

They want to enjoy reading your paper!

**<u>Reviewer</u>**: I really enjoyed the paper and the idea. It is written very clearly. The experimental part was well described and the uncertainty budget excellent. Also the improvement was significant.

Remember the story of the 3 little pigs... it has a GOOD flow!



Check your text with an English native speaker!! (Probably not you....)



#### 2.5 Main Story

#### More specific

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#### 3/3 Be academically honest. Don't oversell

 An instrument that the manufacturer sells with 5-10% uncertainty, can never measure with 0.5% because you took 5 measurements and they agreed with the average value to 0.5%!

**Reviewer:** There is lack of understanding of how the instrument works! The instrument's uncertainty has nothing to do with the number of digits your display has! It is a result of a GUM analysis.

 Consider this abstract: "We outperform the state of the art" And the small print in the experimental results section: "We have one result where we beat the state-of-the-art by 0.1%"

**<u>Reviewer</u>**: I started reading your paper, expecting a method that outperforms everything I've ever seen before. And now I'm let down. I feel you weren't honest with me from the beginning.

State everything as simply and clearly as you can...

Check your text with an English native speaker!! (Probably not you....)





#### 2.6 Figures & Tables

#### More specific

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#### **Figures**

They stand out in the paper, as one glances through it. Some Reviewers first look at the Figures and then the text.

- Good, clear figures with nice symbol, properly identified,
- select a large font size that will look nice when printed,
- well described axis with units,
- not too many in number, and

• styled according to the Journal's requirements definitely make a very good impression and save time. Color not necessary.

#### **Tables**

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How do I submit?

How do

I write?

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#### They should be properly identified. Note

- number of decimals, according to the uncertainty of the quote number,
- proper styling (units), and
- Include uncertainties ( $2\sigma$  level) underneath, should the journal require so!
- In case of measurements, include unformatted text file as Supplementary Material.

#### 2.7 Conclusions etc..

#### More specific

#### Conclusion

Some Reviewers choose to read Conclusions after the Abstract!

- Summarize in ONE PARAGRAPH what you have done
  - What are the key contributions (novelty, results)
  - and what makes them interesting? Cool?

DO NOT repeat exactly the abstract...

Follow up work? (Would you built a house with straw??)

How is it

How do I submit?

How do I write?

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#### **Appendix**

It can be used in case e.g. of calculations that destroy the flow.

#### **Supplementary Materials**

Not very usual but all journals provide the means, e.g. for original data, measurements etc.

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# How to chose a Journal?

#### 3.1 How to choose a journal?

Why publish?

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#### Who chooses where to submit?

#### What factors are important?

- Reputation in the field
- Editors and Editorial Board
  - International reputation and diversity
- Speed

- Note: varies by subject
- Constructive peer review
- Publisher reputation
  - Society or long-established Publisher?
- Impact Factor
- Accessibility
  - Who will see your article?
  - Subscription or Open Access?

#### **3.2 Citations and Impact Factor**

#### **Scientometrics**

#### Citations



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A citation is a reference to a source. A high number of citations for the published work of a scientist, is usually characteristic of high-level of research.

I write?

For every published article, one can easily find its citations i.e. how many other articles mention this particular work.

#### Which journal?

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#### Sources of citations are:

- Google Scholar (open to public) <u>https://scholar.google.com/</u> (includes books/reports)
- Web of Science (subscription) <u>https://www.isiknowledge.com/</u>
- Scopus (subscription) <u>https://scopus.com/</u>
- Authors with above 3,000 citations can be regarded as well-recognized scientists (depending on the discipline, research years, ...) – but beware of unusual citation patterns!

#### **3.2 Citations and Impact Factor**

#### Impact Factor (JIF)

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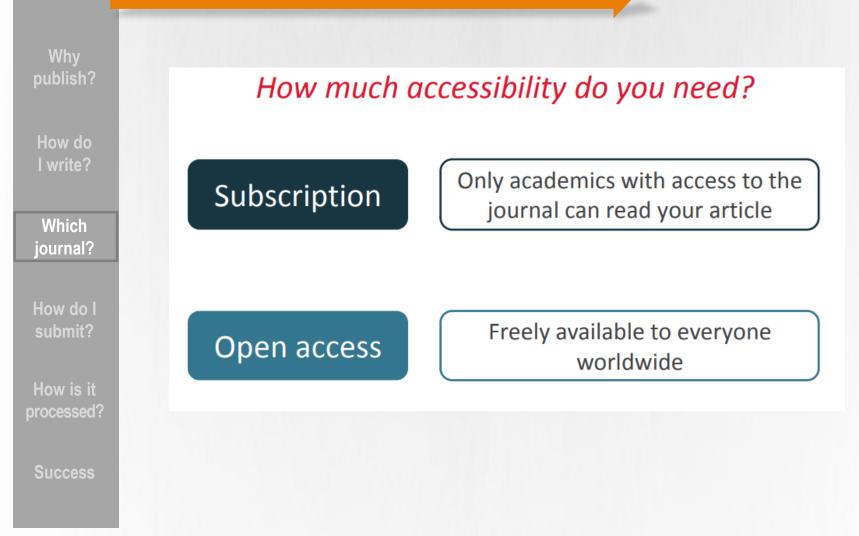
The Impact Factor (IF) of a journal is published each year by Clarivate in the *Journals Citation Reports*<sup>TM</sup>. It offers an indication of average levels of recent citation to articles published in the journal. More precisely:

JIF 2021 = Citations in 2020 to articles published in 2018+2019 Number of articles published in 2018+2019

- Generally, high impact factor journals are usually considered more prestigious than lower-impact journals.
- But more important is the position of the journal in a given JCR category, i.e. the quartile (Q1 – Q4) in which the journal appears. (In some regions, authors <u>have</u> to publish in Q1/Q2 journals.)
  - Which journal will maximize your impact in your field? Not always the journal with the highest IF.

#### 3.3 Open Access

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#### 3.3 Open Access

Why publish?

#### How do I write?



How do I submit?

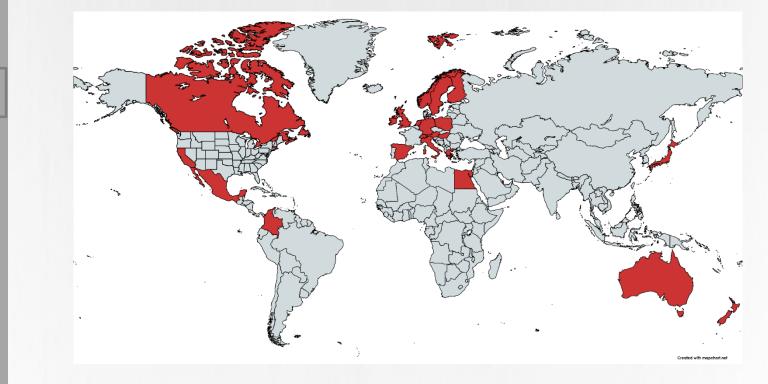
How is it processed?

**Success** 

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#### **Transformative or "Read and Publish" Agreements**

- TAs allow authors to publish OA at no direct cost all APCs are paid centrally.
- Springer Nature has 24 TAs globally check your co-authors' affliations!



#### 3.4 How to choose a journal?

Why publish?

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Which

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submit?

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#### If you get stuck! Springer Nature Journal Suggester

#### SPRINGER NATURE Journal suggester

Personalized recommendation Our journal matching technology finds relevant journals based on your manuscript details

#### Over 2,500 journals

Search all Springer and BMC journals to find the most suitable journal for your manuscript

#### **Author choice**

Easily compare relevant journals to find the best place for publication

## https://journalsuggester.springer.com/

Why publish?	
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Which journal?	
How do I submit?	How do I submit
How is it processed?	my article?
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#### 4.1 How do I submit my article?

Why publish?

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#### **Read the Instructions for Authors!**

#### You will need to have ready:

- Cover Letter (Dear Editor....) although lately not necessary..
- Your paper in Word or Latex (in the Journal's style) incl. Figures, Tables.
- For co-authors: Emails & OrcID (orcid.com) Open Researcher and Contributor Identifier
- 2-3 reviewers to propose (no conflicts of interest! choose international experts)

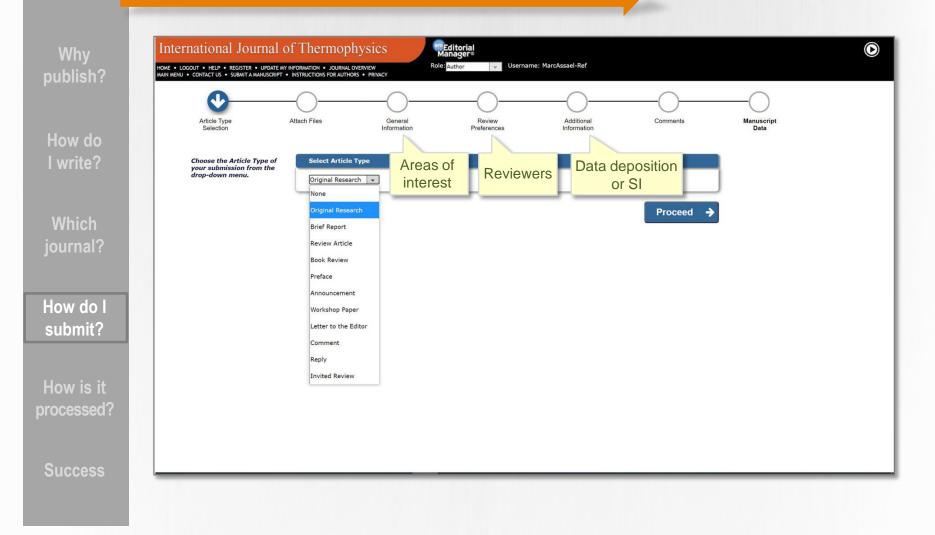
#### Then, you

- a) Create an account
- b) Upload your document
- c) Enter title, abstract, funding if any
- d) Enter your coauthors details
- e) Transfer your abstract
- f) If requested submit 3 potential reviewers (important)
- g) Wait for your pdf to be built
- h) Check and approve the pdf

That's it folks... Houston, we have lift off!

### 4.1 How do I submit my article?

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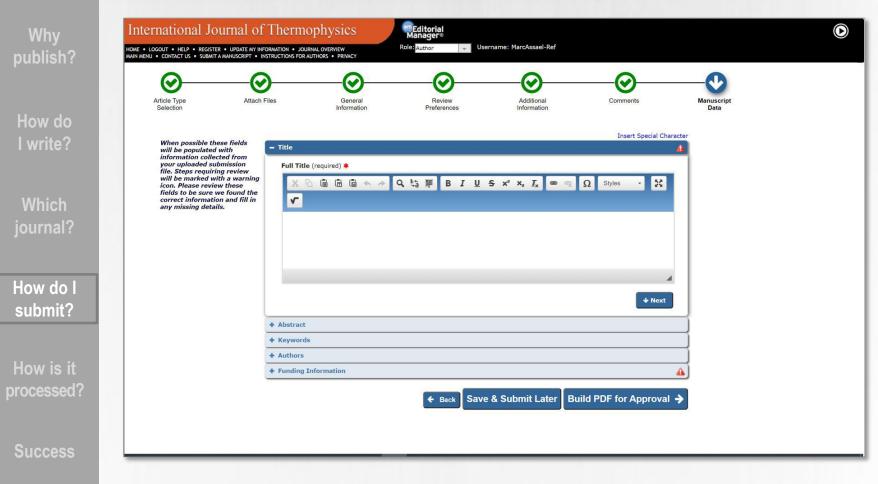


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### 4.1 How do I submit my article?

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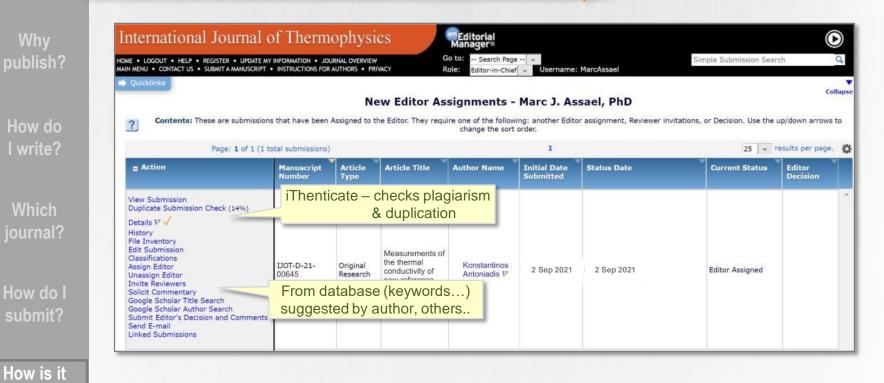


How is it processed?

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#### 5.1 How is my article processed?



- Typically, the Editor-in-Chief will carry out initial screening, and then assign to a handling Editor
- Editor will select and invite appropriate peer reviewers





processed?

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#### 5.1 How is my article processed?

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International Journal of Thermophysics ditorial  $(\mathbf{b})$ Go to Search Page -mple Submission Search HOME . LOGOUT . HELP . REGISTER . UPDATE MY INFORMATION . JOURNAL OVERVIEW WAIN MENU . CONTACT US . SUBMIT A MANUSCRIPT . INSTRUCTIONS FOR AUTHORS . PRIVACY ditor-in-Chief Username: MarcAssae Submissions Under Review - Marc J. Assael, PhD Contents: Submissions for which one or more Reviewers have Agreed to review, but have not yet completed their reviews. These submissions require one of the following actions: 1) Invite Additional Reviewer(s); 2) Allow current Reviewers to complete their work; 3) Make a Decision; 4) Un-invite Reviewer(s). Use the up/down arrows to change the sort order. Display 10 - results per page. Page: 1 of 1 (4 total submissions) Manuscript Article Article Author Initial Date Status Current Editor Title Name Decision Number Type Submitted Date Status AV Action AV AV AV AV AT **Review Status** AV View Submission DOT-D-21-Original Measurements of the thermal Konstantinos 27 Sep 2021 28 Sep Under 1 Agreed 1 Invited - No Response Details P V conductivity of new reference solids 2021 00645 Research Antoniadis, Review Ph D History (more...) File Inventory Edit Submission Classifications Unassign Editor See reviews, invite, uninvite, Invite Reviewers Solicit Commentary add, reminders... Google Scholar Title Search Google Scholar Author Search Submit Editor's Decision and Comments Send E-mail Linked Submissions

- Editor receives review comments, and will send to author with request for revision
- Author makes revisions as needed, submits revised version together with response letter
- Remember reviews should be polite and constructive and so should author responses!

#### 5.1 How is my article processed?

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How do

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How is it processed?

How do I

submit?

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And don't forget...when your paper is published, let people know! Social media can make a difference.



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#### **Contact Details**

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- Professor Alina Adriana Minea
- and all of you for listening to the 3 little pigs and the big bad wolf....



