

A faint, light-colored world map is visible in the background of the slide, centered behind the text.

# HOW TO WRITE A JOURNAL PAPER

BY MS GHIDAOUI,  
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IAHR

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# PERSONAL BACKGROUND

- Editor, Journal of Hydraulic Research, IAHR, 2016 - 2021
- Associate Editor, Journal of Hydraulic Research, IAHR, 2002 - 2016
- Associate Editor, Journal of Hydraulic Engineering, ASCE, 2014 - present
- Associate Editor, Journal of Hydro-Environment Research, IAHR-APD, 2008 - present
- Member of Editorial Advisory Board, Journal of Hydroinformatics, IAHR, 2004 – 2011
- Member of Editorial Advisory Board , Theoretical & Applied Mechanics Letters (TAML), Chinese Academy of Sciences and The Chinese Academy of Theoretical and Applied Mechanics (2016-present)
- Reviewer of hundreds of papers
- Author since 1991

# OVERVIEW OF PRESENTATION

1. Why write? Basic requirements for excellence
2. Before you write
3. Elements and content of a technical paper
4. Write & rewrite!
5. Before you submit
6. After you get reviews
7. Purpose of serving as a reviewer
8. What not to do
9. JHR
10. Future prospects and why IAHR?

# WHY & WHEN TO WRITE?

- To **enlighten** the **reader** with **new** and **novel** findings;  
NOT to improve your CV etc
- When to write? As early as possible!

# NECESSARY CONDITIONS

- Talent
- Ethics /Integrity
- Dedication
- Love what you do
- Recognition that authors, editors, reviewers, readers, publishers all have one objective – the best paper possible
- Writing is research!
- Appreciating the real value of a paper
- “...the value of a paper is determined by the **gain in knowledge or insight** it provides to its **readers...**”

- Dirk Meine (European Coatings Journal)

# WHY ARE MANY PAPERS REJECTED

- Poorly/carelessly written
- Idea unclear
- No novelty
- Poor research
- Topic not fit for the journal
- Unethical issues

# BEFORE YOU PUT A PAPER TOGETHER

- Study and synthesize past research: literature review
  - summarize every paper (write!)
  - Identify the gap (write!)
- Do the research (write!)
- Make sure your results represent a **significant advance** that will be of **interest/value** to the **readers** of the journal in which you intend to publish (write!).

# WHAT IS A TECHNICAL PAPER?

- Typical characteristics
  - E.g., JHR - 25 to 35 pages in length (can also be State-of-the-art paper, Technical Note, Educational and Forum article, Case studies, Discussions)  
– double-spaced, including figures, tables, etc.
- Components
  - Abstract
  - Introduction
  - Literature review
  - Methodology
  - Findings
  - Conclusions
  - Acknowledgements
  - References



# WHAT SHOULD BE IN AN ABSTRACT?

- An abstract is not a table of contents of the paper
  - What is the problem?
  - What are you doing about it and what is your approach?
  - What are the key results?
  - What are the key conclusions?
- Must describe the findings of the paper
- Make the reader interested to read the paper
- No undefined acronyms and symbols
- Avoid equations
- Avoid references to published literature
- Follow the maximum length requirements
- Keywords

# INTRODUCTION

- Describe the problem, its importance and relevance
- Describe what has been done before
- Identify the gaps – specific NOT general
- How your research fills this gap
- Concisely state the contents of the paper

# MAIN BODY

- **Problem:** clearly stated
- **Solution/methodology/results:** rigor! Carefully laid out and performed; reliable -- Calibration; Validation; Convergence; Accuracy; compare with others.
- **Discussion:** results new, convincing, and useful.
- Explain...do not simply report
- Provide physical mechanism/hypothesis, insights etc.
- Do not sell...avoid phrases such as excellent agreement

# CONCLUSIONS

- Summarize your key findings
- Make the importance of the results clear.
- Highlight your novel findings – what is new and original?
- If the work is related to the beginning steps of a research approach, indicate what could be done to make the work more mature.
- Just talking about what the authors intend to do next is not useful.
- Avoid speculation

# REFERENCING

- It is essential to give credit to whomever you relied upon
- Plagiarism is extremely damaging
  - Ruins careers; morally reprehensible; an insult to the technical community
  - The argument 'it is my co-author and not me' is not acceptable; plagiarism checking software exists now and is widely used
- Each journal has its own requirements for the method of citing references, for the order of references at the end of the paper, and for abbreviating the names of journals. Be attentive to these requirements even though it can be very tedious to do so.

# PURPOSE OF RE-WRITING A PAPER

- Hurrying to get the paper submitted is unwise
- Each review takes time
  - don't rush it, make it acceptable, even remarkable
  - eliminate all typographical errors; ensure that the grammar is of high quality (ask a native English speaker to help)
  - the purpose of submitting a paper is not to send in a rough document so that someone will review it and make it better
  - what you submit needs to be what you deem is your work in final form, even though you can expect that reviewers will ask for changes.
  - Sometimes when returning to work, one sees its flaws and may have to start over
  - Be your own most severe critic!

# PURPOSE OF REWRITING A PAPER

- Write and rewrite! (ten to twenty in my case)
  - Are the ideas in the paper new?
  - Can you state the new idea more concisely?
  - What exactly is the problem being solved?
  - Are the ideas significant enough to justify a paper? Short paper, technical note or a full paper?
  - Is the work described sufficiently different from existing related work?
- As you return to your work, your results often improve

# BEFORE SUBMISSION

- Are all terms defined before they are used?
- Is the mathematical notation consistent? (If you use  $t$  for time in the first section, do you use  $t$  to note the time in the second section?)
- Are the references/bibliography consistent and complete?
- Is the spelling of all proper names correct?
- Are the captions correct? Do you put the table caption before or after the table? Usually, the tables and captions are at the end of a paper when submitted



# BEFORE SUBMISSION

- If the page limit is **x** pages, do you have an **x** pages or less long paper?
- Is the writing clear and concise?
- Are ambiguity, slang, and cuteness avoided?
- Did you spell check?
- Are all equations mathematically correct?

# SELECT THE JOURNAL WISELY

- Is the content of your paper appropriate for the journal?
- List of potential reviewers (knowledgeable people, not close colleagues, etc.)
- Many journals exist
- Always aim high

# AFTER YOU GET THE REVIEWS

- Read and think about every reviewer comment
- In your reply letter, clearly address every comment and state exactly where and how the revised manuscript has been modified to address the comment
- Refute criticism if you are sure you are right, but explain clearly and fully

# THINGS NOT TO DO

- Write to simply publish another paper
- Be intimidated by reviewers
- Attack reviewers
- Go to another journal to avoid responding
- Plagiarize, including self-plagiarism
  - Unethical, you are likely to get caught, and even if you don't, you will be found out by your peers through interaction!!
  - publish a single research idea in multiple outlets. Make each of your papers stand independently on its own merit!
- Let rejection discourage you or give you a sense of personal failure
  - Many papers — even papers that later win awards — are rejected at least once

# LAWRENCE MORLEY

- Reversal of earth's magnetic field with time
- The editor of the Journal of Geophysical Research wrote to him: "Such speculations make interesting talk at cocktail parties, but it is not the sort of thing that ought to be published under serious scientific aegis."
- One geologist later described it as "probably the most significant paper in the earth sciences ever to be denied publication." Bill Bryson (2003) A Short History of Nearly Everything

# JAMES WATERSTON (A CIVIL ENGINEER, 18TH CENTURY)

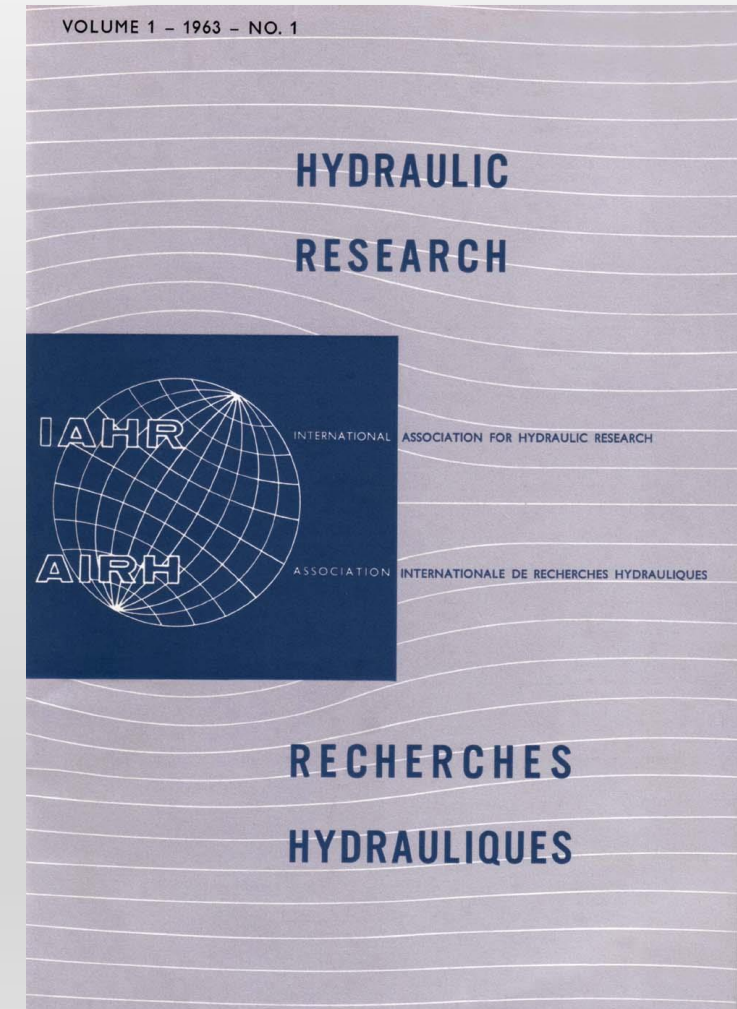
- Derived the correct relations between pressure, temperature and molecular speed; Derived the equi-energy principle in a mixture of gases; etc.
- Paper submitted Dec. 11th 1845; published 1892!! Long after his death.
- Reviewers: “nothing but non-sense”; “the whole investigation is confessedly founded on a principle entirely hypothetical....it exhibits many remarkable accordances with facts... [but the assumptions cannot be rigorously justified]
- Lord Rayleigh: “The omission to publish it at the time was a misfortune, which probably retarded the subject by ten or fifteen years.”
- “a young author who believes himself capable of great things would usually do well to secure the favorable recognition of the scientific world by work whose scope is limited, and whose value is easily judged, before embarking on greater flights”

# BEING A GOOD REFEREE

- Enhances your reputation with your peers (editors)
  - Keeps you on top of the field
  - Teaches you critical thinking & assessment
  - Could gain you 'best referee' award
  - Could appoint you to editorial board
  - Young researchers should send a letter to an editor indicating qualifications and areas of interest expressing their interest in serving the journal as a reviewer.
  - If you accept a reviewing assignment , honor the timeline for the review.
  - Review a paper as efficiently and carefully as you hope your submissions will be reviewed
  - Could change the paper and the paradigm of the field – e.g., Prof H. P. Robertson as a reviewer of Einstein paper!!!
- 
- No referees - no publications!

# JOURNAL OF HYDRAULIC RESEARCH (JHR)

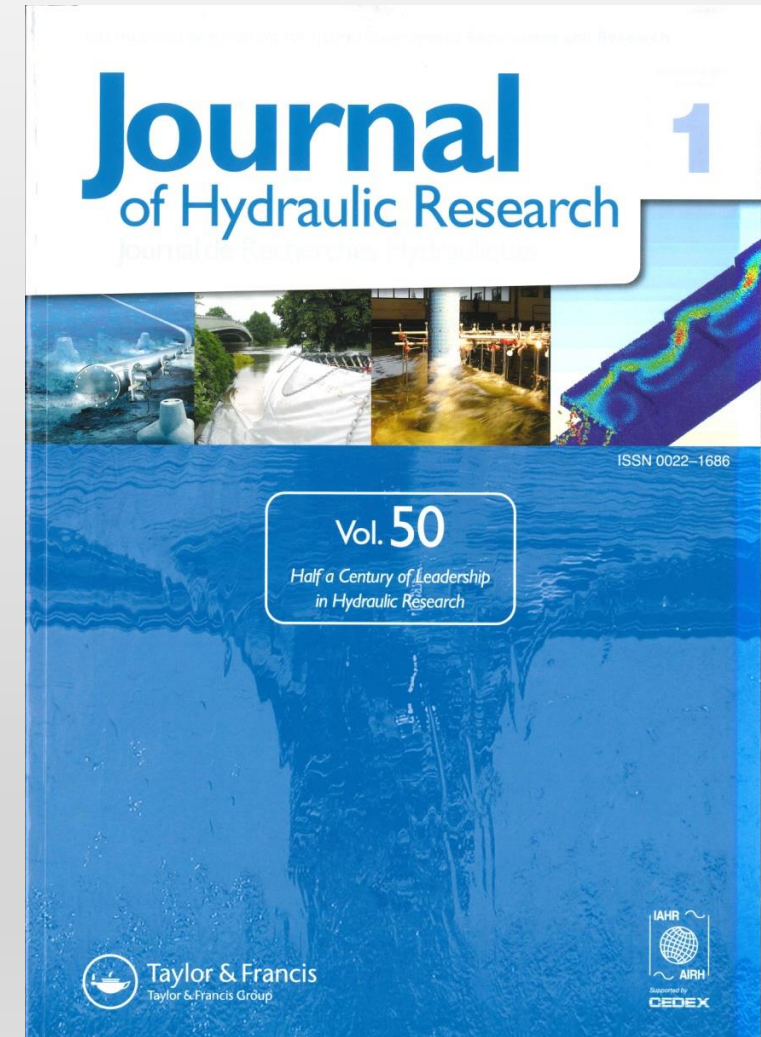
- Established in 1963 – one of the oldest fluids journals
- The flagship Journal of the International Association for Hydro-Environment Engineering and Research (IAHR)
- One of the leading Journals in the field of Hydraulic Research and Engineering
- Fundamental research that underpins hydraulic practice
- A peer reviewed journal that is included in most research data-bases





# JOURNAL OF HYDRAULIC RESEARCH (JHR)

- Publishes research papers in theoretical, experimental and computational hydraulics and fluid mechanics
- Outcomes of interdisciplinary hydro-environment studies with a strong fluid mechanical component are especially invited.
- Focus is on fundamental issues, but papers on important unconventional or emerging applications of broad interest are welcome
- Good balance among main topics
- Truly international Journal: authors and readers represent all continents
- Back issues available online since volume 1



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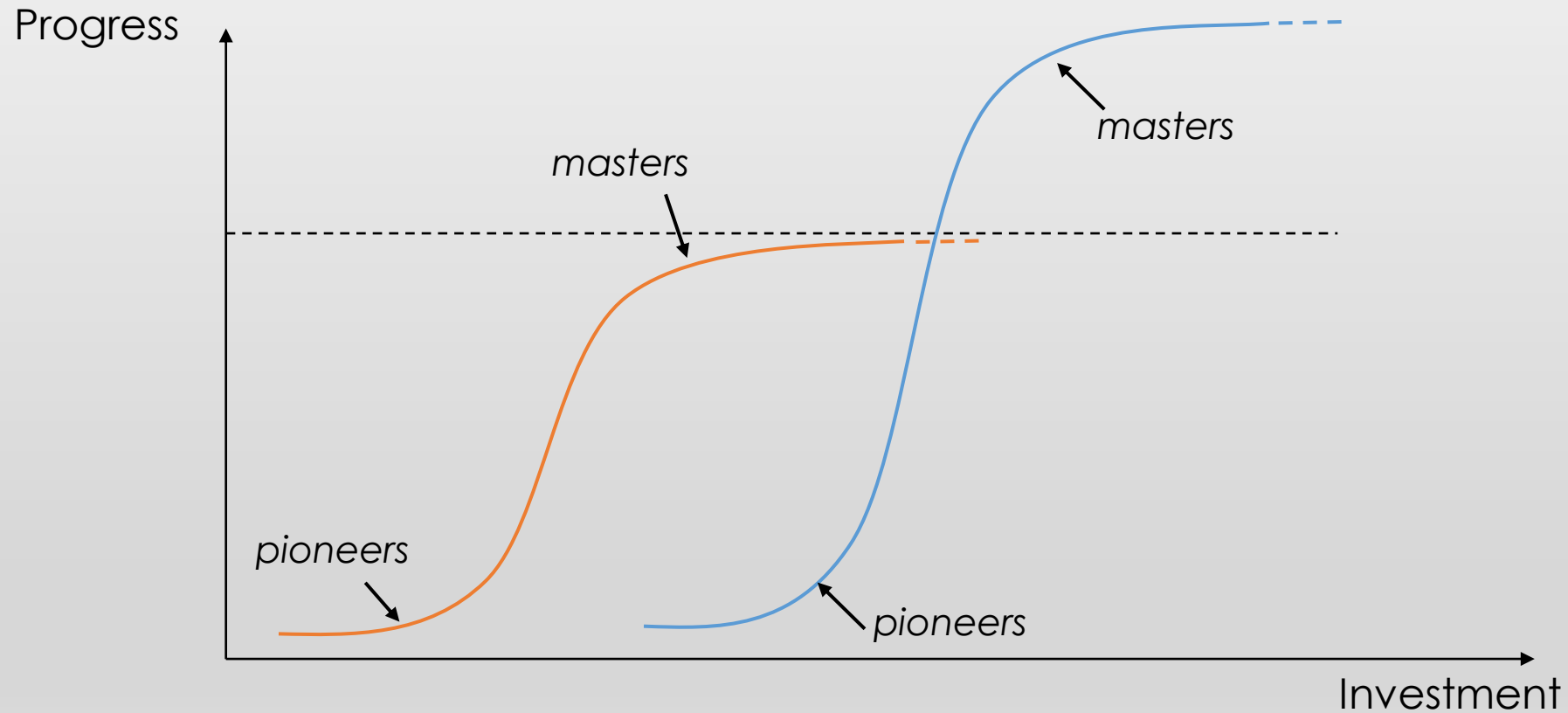
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# OUTLOOK AND IAHR

- Prospects for exiting and paradigm changing research... you could be the pioneers!



- Why IAHR?

THANK YOU!



# SOME OF JHR'S STRENGTHS

- Good balance among main topics
- Truly international Journal: authors and readers represent all continents
- Back issues available online since volume 1
- Publishes a range of paper types:
  - State-of-the-art papers
  - Research papers
  - Technical notes
  - Educational and Forum articles
  - Case studies
  - Discussions

# STATE-OF-THE-ART PAPERS

- Assess and review particular areas of hydraulic and hydro-environment research and highlight important issues of general interest
- Some papers of this type are directly solicited by the Editor and prepared by world-leading authorities in particular areas of hydraulics and fluid mechanics
- These solicited papers discuss key challenges to address in the next decade, emergence of new areas, and developments at the interfaces with other disciplines

# RESEARCH PAPERS

- Report original results of theoretical, experimental, and numerical modelling studies, particularly those employing
  - New conceptual approaches
  - Unconventional data analyses
  - Novel experimental methodologies
  - Uncharted application areas
- All topics corresponding to the JHR remits will be considered



# TECHNICAL NOTES

- Outline
  - Novel ideas
  - Important preliminary results
  - New methodologies
  - Applications

# EDUCATIONAL AND FORUM PAPERS

- Promote novel teaching experiences
- Review significant historical aspects of hydraulic research
- Discuss debatable fundamental and applied issues of hydro-environment research and applications

# CASE STUDIES

- Present specific applied projects
  - Employ new innovative solutions of broad interest for the JHR readership
  - May be instructive for approaching similar problems

# DISCUSSIONS

- Address specific technical issues of published JHR papers
- They may be submitted within a 6-month period after publication of a paper under discussion and should be strictly related to its content
- Each Discussion is followed by the author(s) Closure

# THANK YOU

- Questions?