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ISHS
11th IAHR International Symposium on Hydraulic Structures @CHENGDU 2026
10th IAHR International Junior Researcher and Engineer Workshop on Hydraulic Structures

How to Write a Paper

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University of Nottingham - UK Campus

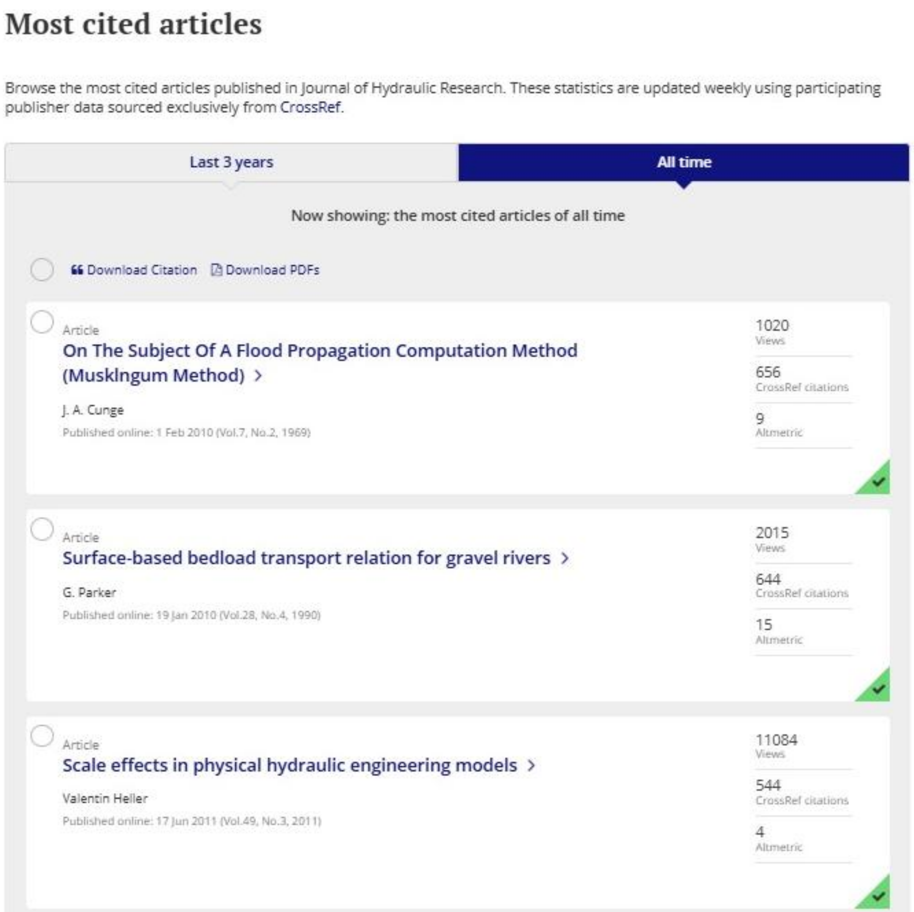
10th IAHR International Junior Researcher and Engineer Workshop on Hydraulic Structures (IJREWHS 2026)

2nd July 2026

Table of Content

Introduction: What is a Good Paper?

- Novel? Positive impact (citations, in news)? Supports your career?
- It **depends on the system** you are based; China: number and quality? India: Q1 journals? UK: quality (REF, 1 paper/year)? Etc.
- The way your work gets assessed in a **system changes**
- In the last 15 years for me (UK): In 2011 reputation of Journal (*JFM*, *Proceedings of the Royal Society*), then in 2014 Source Normalised Impact Factor, since 2019 no metrics at all (San Francisco Declaration of Research Assessment DORA)
- **The system and metrics change, but a good quality paper will always be valued**



Introduction: Two Milestone Papers (in my opinion)

Journal of Fluid Mechanics

Article contents

Abstract

References

The motion of a finite mass of granular material down a rough incline

Published online by Cambridge University Press: **26 April 2006**

S. B. Savage and K. Hutter

Show author details

Article | Metrics

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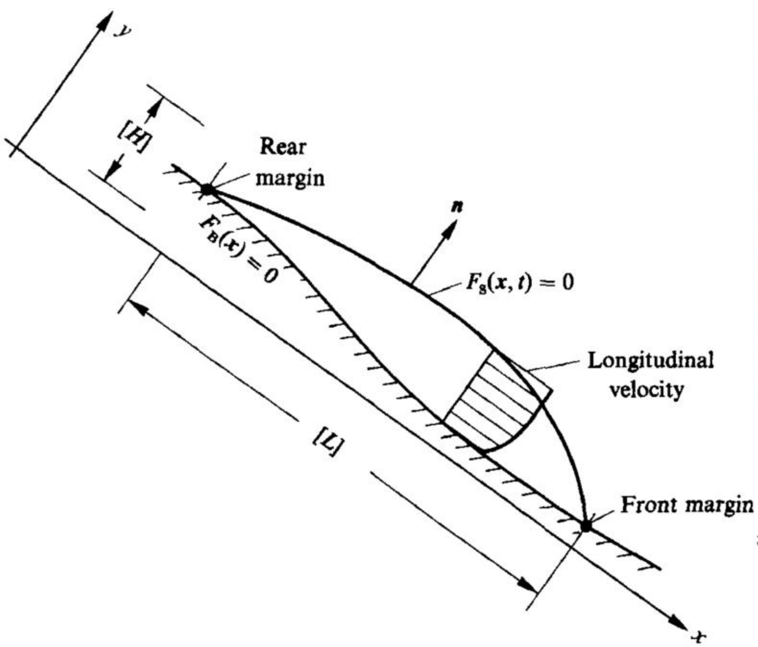
Abstract

Core share and HTML view are not available for this content. However, as you have access to this content, a full PDF is available via the 'Save PDF' action button.



Physics-informed neural networks: A deep learning framework for solving forward and inverse problems involving nonlinear partial differential equations

M. Raissi [a], P. Perdikaris [b], G.E. Karniadakis [a] Show more

View PDF | Download full issue | View Open Manuscript | Cite | Add to Mendeley | Share | 10.1016/j.jcp.2018.10.045

Article | Recommended articles | Cited by (15286) | Metrics

Highlights

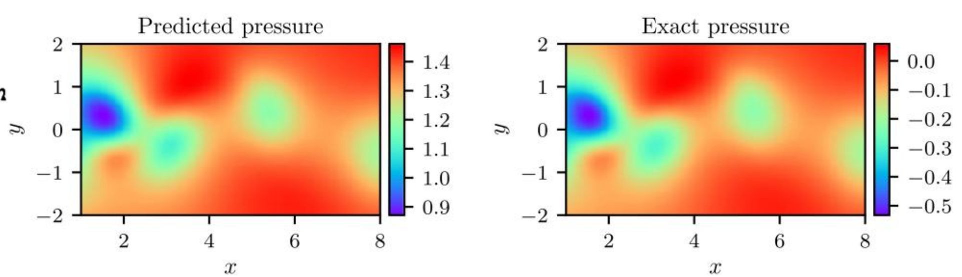
- We put forth a deep learning framework that enables the synergistic combination of mathematical models and data.
- We introduce an effective mechanism for regularizing the training of deep neural networks in small data regimes.
- The proposed methods enable scientific prediction and discovery from incomplete models and incomplete data.

Abstract

We introduce *physics-informed* neural networks – neural networks that are trained to solve supervised learning tasks while respecting any given laws of physics described by general nonlinear partial differential equations. In this work, we present our developments in the context of solving two main classes of problems: data-driven solution and data-driven discovery of partial differential equations. Depending on the nature and arrangement of the available data, we devise two distinct types of algorithms, namely continuous time and discrete time models. The first type of models forms a new family of *data-efficient* spatio-temporal function approximators, while the latter type allows the use of arbitrarily accurate implicit Runge–Kutta time stepping schemes with unlimited number of stages. The effectiveness of the proposed framework is demonstrated through a collection of classical problems in fluids, quantum mechanics, reaction–diffusion systems, and the propagation of nonlinear shallow-water waves.

Outline

Figures (11)



2347 citations on Google Scholar

25371 citations on Google Scholar

Introduction: Some General Points

- A good paper relies on a **novel research idea and good results**
- It is not realistic to write a very influential article if there is a lack of novelty or the quality of the results is not satisfactory
- This lecture **gives tips on writing a well-written and structured high-quality peer-reviewed journal article and maximise the chances of getting it published** (the novelty of your research idea, quality of data, system and impact are not considered)
- **Positive:** Apply multiple methods; e.g. lab experiments to validate numerical simulations, or a theory fitting your experimental results
- **Positive:** Use an open-source code (e.g. OpenFOAM) rather than a commercial code for numerical simulations (modify the source code)
- **Positive:** Try to derive generic findings (applicable for many situations) rather than case-specific ones; if you work on a case study, derive results which are relevant beyond your specific case
- **Positive:** Review papers of others to develop your own writing style

Writing Process: Tips 1

- **Read many articles** (one every day, also from the targeted journal)
  - This creates ideas about the storyline in the Introduction, what to analyse, how to present the results, how to compare your results, etc.
  - Organise this information (write summaries, ideas and how you want to use a specific article)
  - Use a reference manager such as EndNote
- **Start with easy sections for which the content is not changing anymore** (Methodology, Results, Discussion of Results)
- **Prepare the artwork** (figures) **early on**
- Use a **proof-reading tool** (e.g. Grammarly)
- Creating content with generative AI is regarded as false authorship; if you use e.g. ChatGPT or Copilot to improve readability, then remove “ChatGPT vocabulary” such as “elucidate” and long hyphens
- Once your draft paper is written, **read it several times and improve it** (this may take 50% of the time used to write the draft)

Writing Process: Tips 2

- Technical writing is very different from how a novel or poem is written
- The reader needs to be able to **easily follow** the points and arguments made in the paper
- **Technical writing…**
  - tends to use **short and precise sentences**
  - follows a **logical/clear structure (in paragraphs and overall)**
  - Traditionally, it was written in a passive style (e.g. write "Has been conducted by the authors…" rather than "We conducted…"), but this has changed in the last decade (check papers of the targeted journal)
  - does **not use contractions** (write "does not" rather than "doesn't"; write "he will" rather than "he'll")
  - uses gerunds, e.g. "Fig. 1, showing…" instead "Fig. 1, which shows…"
  - uses "as shown in Figure 1…", not "as shown in the following figure"
  - **uses precise language**, e.g. subjective words such as "huge", "nice", "lovely", "massive", "giant", "very", etc. **should be avoided**; much better is to give **a specific number**

Writing Process: Structure of Paper 1

- Carefully **plan what you want to add under which heading**:
- Title (informative and concise, also mention the applied method)
- Authors
  - Check the order with your main supervisor, as this **can be delicate** (e.g. write at the start that the order will be confirmed (TBC))
- **Abstract** (example below)
  - Mention the most relevant information of all sections
  - Respect the **word limit** (online mask, e.g. 150 words in *JHR*)
  - Write the abstract towards or at the very end
- Keywords

ABSTRACT
Air–water flows are among the most important flow types in hydraulic engineering. Their experimental modelling at reduced size using Froude scaling laws introduces scale effects. This study introduces novel scaling laws for compressible air–water flows in which the air is considered compressible. This is achieved by applying the one-parameter Lie group of point-scaling transformations to the governing equations of these flows. The scaling relationships between variables are derived for the fluid properties and the flow variables including temperature. The novel scaling laws are validated by computational fluid dynamics modelling of a Taylor bubble at different scales. The resulting velocity, density, temperature, pressure and volume of the bubble are shown to be self-similar at different scales, i.e. all these variables behave the same in dimensionless form. This study shows that the self-similar conditions of the derived novel scaling laws for compressible air–water flows have the potential to improve laboratory modelling.

Catucci et al. (2023) *Journal of Hydraulic Research (JHR)*

Writing Process: Structure of Paper 2

- **Introduction (why)**
  - Introduce the topic
  - Synthesise relevant previous work (state-of-the-art) and motivate the research need
  - State the aim and objectives (SMART)

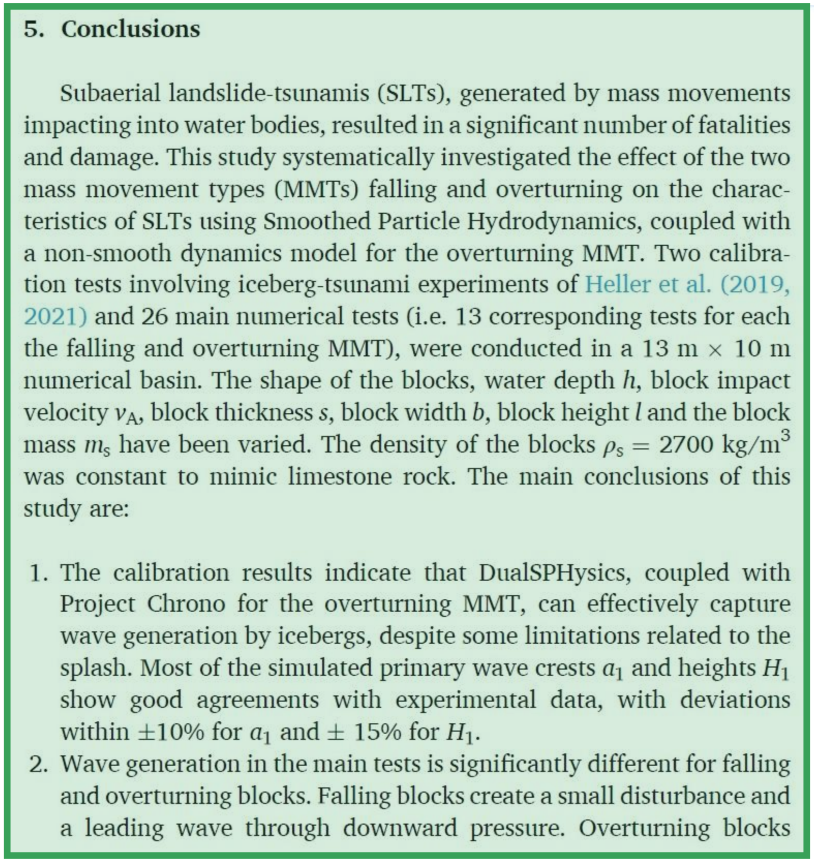
> This article is organized as follows: in Section 2 the Lie group transformations are applied to the governing equations and the NSLs are derived. The numerical model is presented in Section 3. Subsequently, a case study of the Taylor bubble is illustrated in Section 4, including the set-up, the application of the NSLs and the discussion of the results. The conclusions and recommendations for future work are given in Section 5. Appendix A includes the details of the derivation of the NSLs and the self-similar conditions.

Catucci et al. (2023) *JHR*

  - Explain the paper structure in the final paragraph (example above)
  - Use the word *Introduction* as heading
- **Methodology (how)**
  - Describe how you derived your data/results (your model)
  - Others should be able to reproduce your work
  - This is typically the **1st section you write**
- **Results (what)**
  - Present and describe your main results
  - This is typically the **2nd section you write**, after the methodology

Writing Process: Structure of Paper 3

- **Discussion of Results** (**so what**)
  - Put your findings into the context of available knowledge
  - Add e.g. a comparison of your results or new method with others, an application example or the limitations of your work
- **Conclusions**
  - Give a brief background and touch on the methodology, before you highlight the main conclusions of your work (some journals welcome bullet points or numbers)
  - They **should be self-contained**, so introduce abbreviations and parameters once more
  - They typically end with some sen-tences about potential future work
- Notation and Abbreviations


5. Conclusions

Subaerial landslide-tsunamis (SLTs), generated by mass movements impacting into water bodies, resulted in a significant number of fatalities and damage. This study systematically investigated the effect of the two mass movement types (MMTs) falling and overturning on the characteristics of SLTs using Smoothed Particle Hydrodynamics, coupled with a non-smooth dynamics model for the overturning MMT. Two calibration tests involving iceberg-tsunami experiments of Heller et al. (2019, 2021) and 26 main numerical tests (i.e. 13 corresponding tests for each the falling and overturning MMT), were conducted in a 13 m × 10 m numerical basin. The shape of the blocks, water depth h, block impact velocity v_A, block thickness s, block width b, block height l and the block mass m_s have been varied. The density of the blocks $\rho_s = 2700$ kg/m^3 was constant to mimic limestone rock. The main conclusions of this study are:

1. The calibration results indicate that DualSPHysics, coupled with Project Chrono for the overturning MMT, can effectively capture wave generation by icebergs, despite some limitations related to the splash. Most of the simulated primary wave crests a_1 and heights H_1 show good agreements with experimental data, with deviations within ±10% for a_1 and ± 15% for H_1.
2. Wave generation in the main tests is significantly different for falling and overturning blocks. Falling blocks create a small disturbance and a leading wave through downward pressure. Overturning blocks

Liu et al. (2025) *Eng. Geology*

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Writing Process: Structure of Paper 4

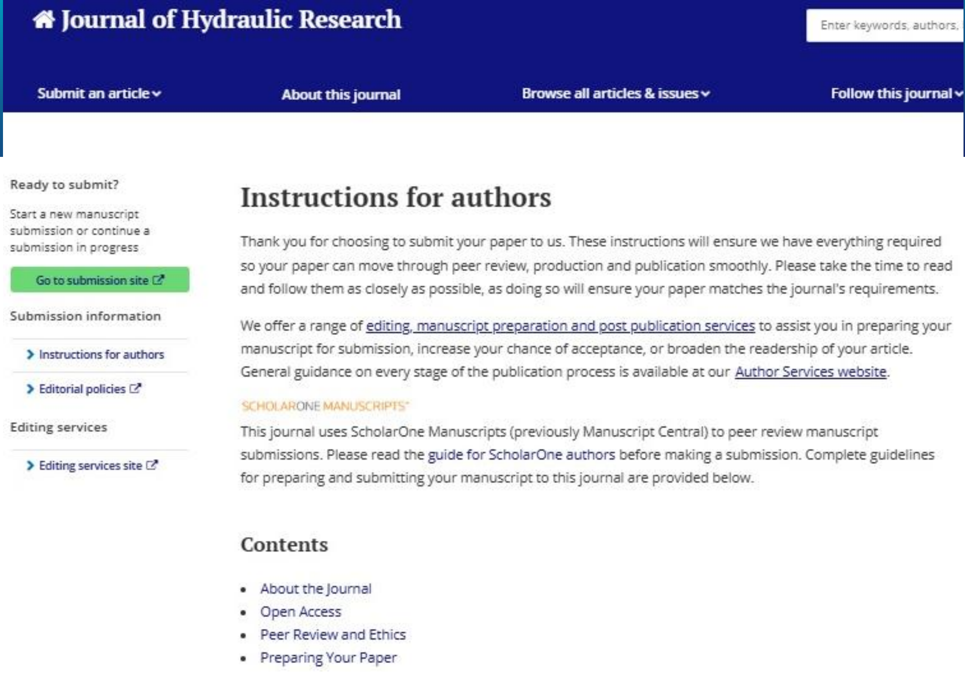
CRediT authorship contribution statement

Tommaso Attili: Methodology, Investigation, Formal analysis, Validation, Visualization, Writing - original draft, Writing - review & editing. **Valentin Heller:** Conceptualization, Methodology, Project administration, Funding acquisition, Supervision, Validation, Writing - review & editing. **Savvas Triantafyllou:** Conceptualization, Methodology, Supervision, Validation, Writing - review & editing.

Attili et al. (2021) *Coastal Eng.*

- **References**
  - Mainly cite peer-reviewed papers (discussed later on)
  - Make sure you **add relevant ones from the targeted journal** to reduce the risk of desk rejection
  - All articles mentioned in the text need to be listed, and vice versa
- **Appendix**
  - Add repetitive results or parts of the methodology (concise main part)
  - Add information from others that is essential for your paper (e.g. for the discussion)
- **Acknowledgements**
  - Mention funding bodies or people who helped you, but are not part of the author team (lab technicians, collaborators, etc.)
  - Some acknowledge the anonymous reviewers (unnecessary in my view)
- CRediT Author Statement (example from Elsevier)
  - Send a draft to all authors and make sure that all are happy
  - Discuss this with your main supervisor first and write TBC (**delicate**)

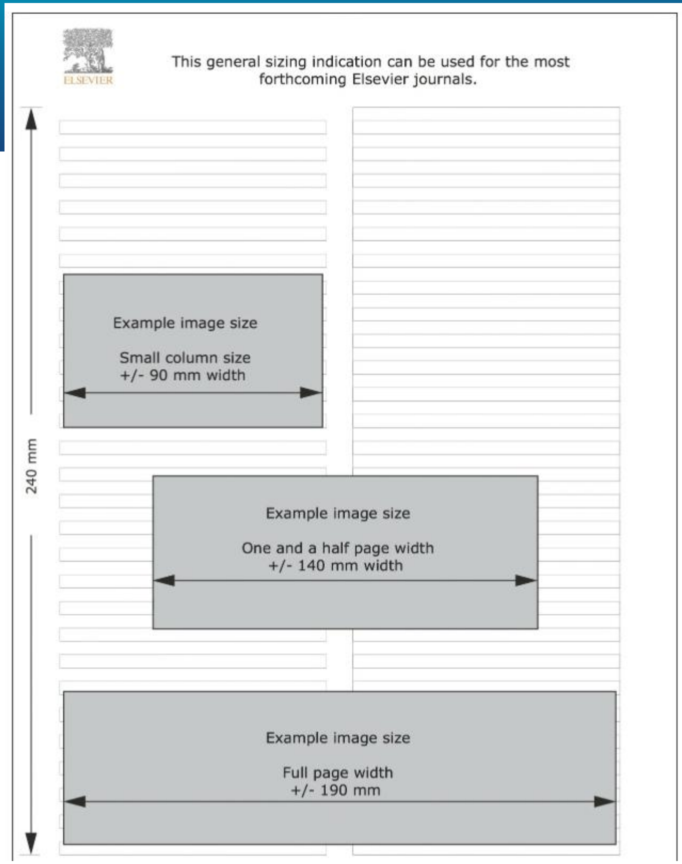
Writing Process: Artwork 1

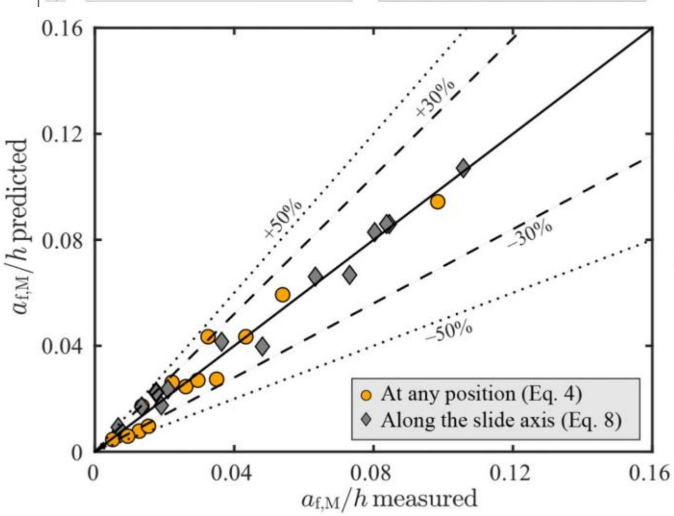


- **Visual elements** (e.g. graphs, charts, diagrams, photographs, drawings), simply **called figures**
- Check journal Guide for Authors (Elsevier)/Instructions for Authors (*JHR*, example)
- Two main formats exist: **vector and raster (pixel)**
- Work with **vector files**, e.g. in Inkscape or Adobe Illustrator, if possible; you have full control and can move and change text
- Export the vector files then in raster format (journals typically accept .tiff and .jpg format, with **at least 400 dpi** (dots per inch))
- Select the font size slightly smaller than the main text in the printed article
- Write the font style according to the journal guidelines (they typically ask for font in italic, also on figures and tables)

Writing Process: Artwork 2

- You save time and the paper looks better if you **define the figure sizes** early on (Elsevier works with 3 figure sizes: 90, 140 and 190 mm)
- **Scale the figure size** and select the font size accordingly
- This will help the typesetting team (you will have limited control over the final format of your paper, see next slide), i.e. figure sizes will more likely look as you wanted
- **Mind colour blind readers** (if you use colours, use also different line/symbol styles), more and more reviewers and publishers ask for this

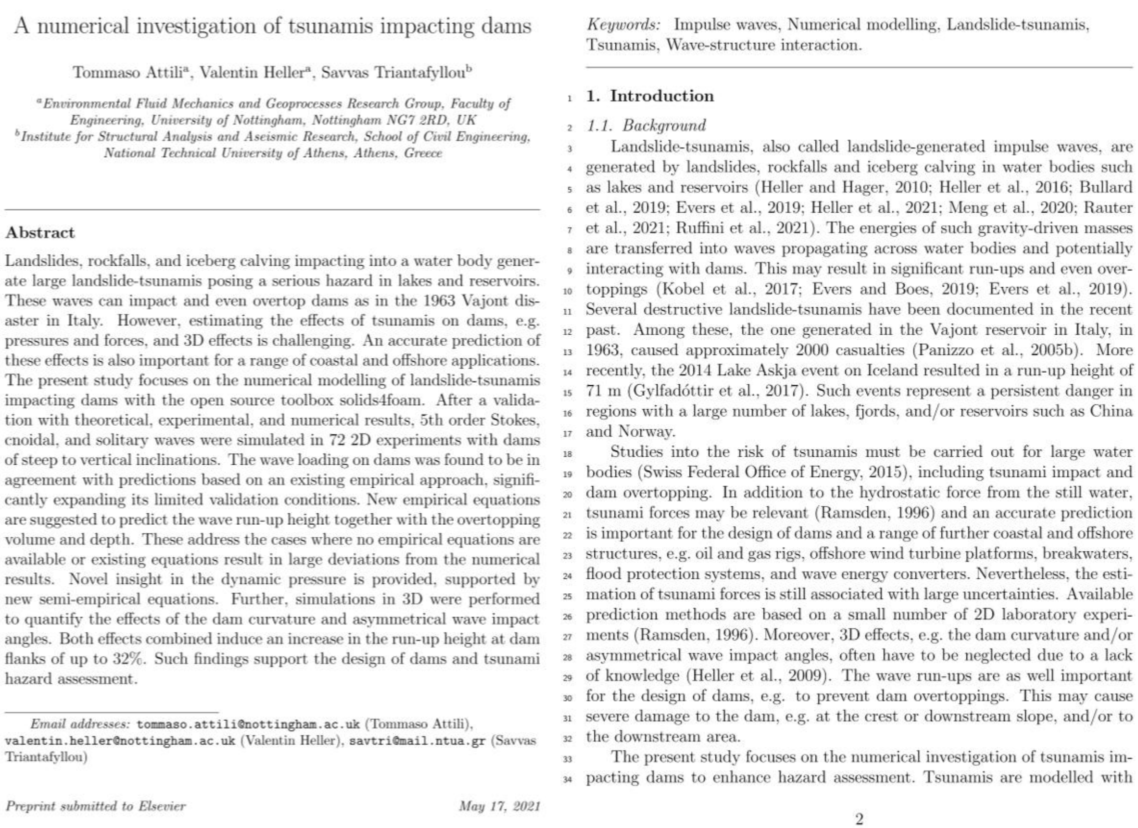




Liu et al. (2025) *Eng. Geology*

Writing Process: Artwork 3

- The typesetting team will format your paper
- **You will have limited control** over how it will look like, where the figures are located and their final sizes



A numerical investigation of tsunamis impacting dams

Tommaso Attili[a], Valentin Heller[a], Savvas Triantafyllou[b]

[a]*Environmental Fluid Mechanics and Geoprocesses Research Group, Faculty of Engineering, University of Nottingham, Nottingham NG7 2RD, UK*
[b]*Institute for Structural Analysis and Aseismic Research, School of Civil Engineering, National Technical University of Athens, Athens, Greece*

Abstract

Landslides, rockfalls, and iceberg calving impacting into a water body generate large landslide-tsunamis posing a serious hazard in lakes and reservoirs. These waves can impact and even overtop dams as in the 1963 Vajont disaster in Italy. However, estimating the effects of tsunamis on dams, e.g. pressures and forces, and 3D effects is challenging. An accurate prediction of these effects is also important for a range of coastal and offshore applications. The present study focuses on the numerical modelling of landslide-tsunamis impacting dams with the open source toolbox solids4foam. After a validation with theoretical, experimental, and numerical results, 5th order Stokes, cnoidal, and solitary waves were simulated in 72 2D experiments with dams of steep to vertical inclinations. The wave loading on dams was found to be in agreement with predictions based on an existing empirical approach, significantly expanding its limited validation conditions. New empirical equations are suggested to predict the wave run-up height together with the overtopping volume and depth. These address the cases where no empirical equations are available or existing equations result in large deviations from the numerical results. Novel insight in the dynamic pressure is provided, supported by new semi-empirical equations. Further, simulations in 3D were performed to quantify the effects of the dam curvature and asymmetrical wave impact angles. Both effects combined induce an increase in the run-up height at dam flanks of up to 32%. Such findings support the design of dams and tsunami hazard assessment.

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Preprint submitted to Elsevier *May 17, 2021*

Keywords: Impulse waves, Numerical modelling, Landslide-tsunamis, Tsunamis, Wave-structure interaction.

1. Introduction

1.1. Background

Landslide-tsunamis, also called landslide-generated impulse waves, are generated by landslides, rockfalls and iceberg calving in water bodies such as lakes and reservoirs (Heller and Hager, 2010; Heller et al., 2016; Bullard et al., 2019; Evers et al., 2019; Heller et al., 2021; Meng et al., 2020; Rauter et al., 2021; Ruffini et al., 2021). The energies of such gravity-driven masses are transferred into waves propagating across water bodies and potentially interacting with dams. This may result in significant run-ups and even overtoppings (Kobel et al., 2017; Evers and Boes, 2019; Evers et al., 2019). Several destructive landslide-tsunamis have been documented in the recent past. Among these, the one generated in the Vajont reservoir in Italy, in 1963, caused approximately 2000 casualties (Panizzo et al., 2005b). More recently, the 2014 Lake Askja event on Iceland resulted in a run-up height of 71 m (Gylfadóttir et al., 2017). Such events represent a persistent danger in regions with a large number of lakes, fjords, and/or reservoirs such as China and Norway.

Studies into the risk of tsunamis must be carried out for large water bodies (Swiss Federal Office of Energy, 2015), including tsunami impact and dam overtopping. In addition to the hydrostatic force from the still water, tsunami forces may be relevant (Ramsden, 1996) and an accurate prediction is important for the design of dams and a range of further coastal and offshore structures, e.g. oil and gas rigs, offshore wind turbine platforms, breakwaters, flood protection systems, and wave energy converters. Nevertheless, the estimation of tsunami forces is still associated with large uncertainties. Available prediction methods are based on a small number of 2D laboratory experiments (Ramsden, 1996). Moreover, 3D effects, e.g. the dam curvature and/or asymmetrical wave impact angles, often have to be neglected due to a lack of knowledge (Heller et al., 2009). The wave run-ups are as well important for the design of dams, e.g. to prevent dam overtoppings. This may cause severe damage to the dam, e.g. at the crest or downstream slope, and/or to the downstream area.

The present study focuses on the numerical investigation of tsunamis impacting dams to enhance hazard assessment. Tsunamis are modelled with

Coastal Engineering 169 (2021) 103942

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Coastal Engineering

journal homepage: www.elsevier.com/locate/coastaleng

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ARTICLE INFO

Keywords:
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Numerical modelling
Tsunamis
Wave-structure interaction

ABSTRACT

Landslides, rockfalls, and iceberg calving impacting into a water body generate large landslide-tsunamis posing a serious hazard in lakes and reservoirs. These waves can impact and even overtop dams as in the 1963 Vajont disaster in Italy. However, estimating the effects of tsunamis on dams, e.g. pressures and forces, and 3D effects is challenging. An accurate prediction of these effects is also important for a range of coastal and offshore applications. The present study focuses on the numerical modelling of landslide-tsunamis impacting dams with the open source toolbox solids4foam. After a validation with theoretical, experimental, and numerical results, 5th order Stokes, cnoidal, and solitary waves were simulated in 72 2D experiments with dams of steep to vertical inclinations. The wave loading on dams was found to be in agreement with predictions based on an existing empirical approach, significantly expanding its limited validation conditions. New empirical equations are suggested to predict the wave run-up height together with the overtopping volume and depth. These address the cases where no empirical equations are available or existing equations result in large deviations from the numerical results. Novel insight in the dynamic pressure is provided, supported by new semi-empirical equations. Further, simulations in 3D were performed to quantify the effects of the dam curvature and asymmetrical wave impact angles. Both effects combined induce an increase in the run-up height at dam flanks of up to 32%. Such findings support the design of dams and tsunami hazard assessment.

1. Introduction

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Studies into the risk of tsunamis must be carried out for large water bodies (Swiss Federal Office of Energy, 2015), including tsunami impact and dam overtopping. In addition to the hydrostatic force from the still water, tsunami forces may be relevant (Ramsden, 1996) and an accurate prediction is important for the design of dams and a range of further coastal and offshore structures, e.g. oil and gas rigs, offshore wind turbine platforms, breakwaters, flood protection systems, and wave energy converters. Nevertheless, the estimation of tsunami forces is still associated with large uncertainties. Available prediction methods are based on a small number of 2D laboratory experiments (Ramsden, 1996). Moreover, 3D effects, e.g. the dam curvature and/or asymmetrical wave impact angles, often have to be neglected due to a lack of knowledge (Heller et al., 2009). Wave run-ups are also important for the design of dams, e.g. to prevent dam overtoppings. This may cause severe damage to the dam, e.g. at the crest or downstream slope, and/or to the downstream area.

The present study focuses on the numerical investigation of tsunamis impacting dams to enhance hazard assessment. Tsunamis are modelled with idealised wave types representing a wide range of impulse waves, e.g. generated by earthquakes, landslides, and icebergs. Computational fluid dynamics (CFD) shows a great potential in modelling tsunamis (Yavari-Ramshe and Ataie-Ashtiani, 2016), waves impacting walls (He and Kashiwagi, 2012; Chen et al., 2014; Didier et al.,

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Available online 22 June 2021

Format submitted by Attili et al. (2021) *Coastal Eng.*

Published format

Writing Process: Artwork 4

- A good and a less good example about the font size in figures from the same article

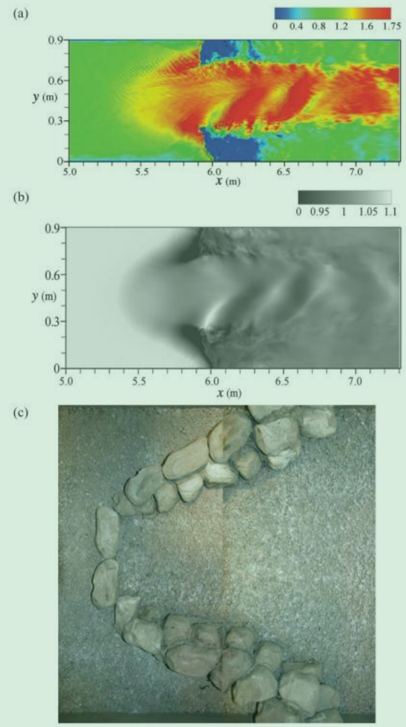

Figure 6 LES of two-phase free-surface flow over a real-life rock structure: (a) dimensionless streamwise velocity (non-dimensionalized with mean velocity) on the free-surface; (b) dimensionless flow depth (non-dimensionalized with mean flow depth) (Kang & Sotiropoulos, 2015b). Plan view of the experimental rock structures is shown in (c).

2014, 2015a, 2015b, 2015c, 2015d) and as such it can be used to optimize structure placement for specific river geometry. In our work thus far, however, we have used the model to develop more general guidelines that are applicable to large classes of rivers in nature. For that, we have employed available data to construct two different virtual river systems representing typical sand and gravel-bed meandering rivers, and used them as test-beds for carrying numerical experiments, with the VSL3D in URANS mode, aimed at optimizing the spacing and placement of rock vanes by taking into account the complex physics of the coupled hydro-morphodynamic phenomena (Sotiropoulos & Diplas, 2014). For each of the two virtual river test-beds (sand and gravel beds) we begin by carrying out coupled hydro-morphodynamic simulations for the control case, i.e. the river without any structures in it. The results of these simulations are then used to gauge the effect of various rock vanes on river morphodynamics. For a given virtual river system, we start by embedding initially one rock structure and systematically vary parameters, such as number of structures, placement location, placement orientation, etc., to computationally explore their effects on structure performance and stability. Simulations are carried out over several meander bends and for several months of physical time at bankfull conditions to ensure that quasi-equilibrium has been established. For more details see Khosronejad et al. (2015c, 2015d) and Sotiropoulos and Diplas (2014).

5 Summary and future outlook

The computational advances I have briefly reviewed above demonstrate the enormous potential of SBES in hydraulic engineering research. Much of this progress has been enabled by the advent in computational hydraulics of immersed boundary methods (see Sotiropoulos and Yang, 2014), like the CURVIB method implemented in the VSL3D code, which provided an effective approach for building super-grid computational models

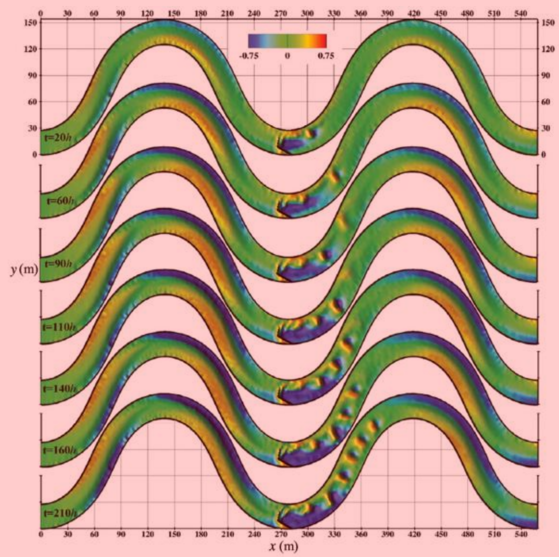

Figure 7 Colour maps of instantaneous bed elevation (m) from time instant $t = 20$ h (top) to $t = 210$ h (bottom) showing the geometry of the simulated dune in a sand bed river with a 30° J-hook vane installed at the apex of the middle meander. Flow in all pictures is from left to right (Khosronejad et al., 2015a)

humanity in its quest for a sustainable future. For example, integrating predictive computational models such as those I reviewed above, with data from satellites, LiDARs and robotically deployed sensors in waterways will open up exciting

were collected and used to validate the model but the simulations are presently being used as a tool to understand how the bridge piers will respond (e.g. maximum scour depth and dynamics of scour due to passage of bed forms) to such extreme

Sotiropoulos (2015) *JHR*

Writing Process: References

Scopus
Google Scholar
WEB OF SCIENCE

- **Focus on peer-reviewed journal papers**
- PhD dissertations, good technical books and proceedings from prestigious conferences (e.g. ISHS) may be acceptable as well
- However, **stay away from grey literature** such as reports (only if they are very important), websites, MSc theses, news articles, etc.
- Use a search engine, such as *Scopus*, *Google Scholar* or *Web of Science*, with their own search strategy, for your literature search
- For a focused search, use keywords or key phrases in quotation marks, or use several keywords linked with "AND" (e.g. "Bridge pier scour" AND "Laboratory experiment")
- Format them according to the **Author Guidelines** (most likely Harvard referencing style (alphabetical order, e.g. in-text citation "Catucci et al. (2023)"), Vancouver style is less often used in the journals in our fields (with numbers, e.g. in-text citation "[1]"))
- Again, make sure to **include papers from the targeted journal** to demonstrate the fit of your work

Review Process: An Editor's Perspective

- Initial screening (e.g. Editor-in-Chief, Associate Editor):
  - **Out of scope** for the journal => Desk **rejection** (this happens to very good articles!)
  - The work is **not novel** (no new physical insight, findings, interpretation or method, incremental, etc.)? => Desk **rejection**
- After in-depth review by 2 or more reviewers:
  - Is the work **flawed** (significant mistakes, incorrect modelling approach, misleading interpretation, etc.) => **Rejection**
  - More than one **reviewer recommends rejection** => **Rejection**
  - Issues you may get away with, if the work is sufficiently novel:
    - Insufficient data (if it appears realistic to collect/access more data); Weak presentation (artwork, text); Not concise (text, figures); Insufficiently embedded in the state-of-the-art; Not well written (grammar issues, mixture of American and British English); Conclusions are insufficiently supported by the data; Does not follow journal guidelines; Many inconsistencies
- Question: Are the authors able to address the comments of the reviewers within **a realistic time frame**? => If no, **rejection**

Review Process: Common Issues Raised by Reviewers 1

- The **Author Guidelines** are not followed, including overlength (sometimes returned by the Editorial Office prior to sending it to the Editor-in-Chief)
- **Important work is ignored**
- There is **insufficient narrative** and the information from other sources is **insufficiently synthesised** and/or compared (do not use one paragraph or sentence for each reference)

In contrast to diverging water body geometries, waves propagation in converging geometries involves reflection from the sidewalls. Perroud (1957) conducted experiments and observed that when $45° < \psi < 90°$, a wave pattern similar to regular reflection emerged, as shown in Fig. 2a. The reflected wave maintains the characteristics of the incident one, such as a reflected amplitude a_r and angle ψ_r. In this case, a stem or hump forms after the wave impingement and remains stable thereafter. However, for smaller angles (e.g. $20° \leq \psi \leq 40°$ in Li et al., 2011), a continuously growing stem forms perpendicularly to the wall for non-linear waves (Fig. 2b). A specific physical phenomenon is called Mach reflection in which a solitary wave interacts with a vertical wall at a sufficiently small angle. This interaction creates a reflected wave that intersects with the incident wave and results in the formation of a high-amplitude Mach stem wave (Perroud, 1957; Miles, 1977a,b; Li et al., 2011). As shown in Fig. 2b, the so-called stem length l_s increases with a gradient determined by the stem angle ψ_w as the wave propagates. Note that l_s increases linearly, while the stem wave amplitude a_w does not. The rate at which a_w is amplified decreases, approaching a theoretical asymptotic value as the process continues. For example in the numerical study of Li et al. (2011), the distance required to reach 95% of the asymptotic amplification is $103.8h$ for an incident solitary wave with a relative amplitude $a/h = 0.277$ and $\psi = 30°$.

Chen et al. (2024) *Coastal Eng.*

Mueller (2020) introduced the thermodynamic considerations of air compression and expansion into models of energy dissipation in his paper. After demonstrating through experimentation that at high velocities and jet aerations that between 15% and 36% of the jet's energy can be dissipated through air compression and expansion, the assumption that modelling energy dissipation in civil engineering hydraulics without considering such thermodynamic effects produces a satisfactory prediction of energy dissipation is questionable.

Lamarre and Melville (1991), in their study on heat and gas transfer across air-sea interfaces where breaking waves entrain air bubbles, found that the total volume of air entrained correlates with the energy dissipated. This idea further the supports the proposition that further investigation is needed on energy dissipation mechanics involving air-water interactions in waves. Therefore, this study's investigation into novel energy dissipation mechanisms is validated by existing research.

Review Process: Common Issues Raised by Reviewers 2

- The manuscript is **not concise** (repetitions, too wordy, etc.)
- The information is not presented in the correct section (**disorganised**); E.g., the results start with method or background information
- The **Conclusions read like a long abstract or are not self-contained**
- **Low quality of figures** (font size or style, resolution, readability)
- **Figures are repetitive** (figures need to be presented concisely)
- It takes too long to reach the results section (the introduction and methodology should not add up to 60% of the article)
- **Incremental work** (similar work has already been published by the same or other authors)
- The paper is **not tailored to the readership** of the journal (you explain things which are clear to the average reader, e.g. the Froude number in *JHR*, or the wave height in *Coastal Eng*.)
- The results are **oversold** or the **limitations are not stated**

Review Process: Response to Reviewers Comments

- If you get invited to revise your article, **congratulations**!
- The reviewer's **comments may feel personal, but this is rarely the case**
- **Sometimes novel work has a harder time in the review process** than more standard work following conventional ideas (novel work is more difficult to understand, reviewers may not like it as their own work becomes outdated)
- The reviewers provide their expertise to help you improve your work for free, typically in their free time; do not forget this
- If they ask a question, **clearly answer the question, but also improve your article** (questions typically highlight that some-thing is unclear in the manuscript, less the reviewers' curiosity)
- **Make it easy** for the editor/reviewers and **stay polite** (example)
- However, you need to **demonstrate your expertise**; do not just take over points you disagree with (you may lose credibility)
- Reviewers' comments **may contradict** (different opinions)

Review Process: Response to Reviewers Comments

- Example Response Letter/Rebuttal of Catucci et al. (2023)

Dear Reviewer 1, Respond politely

We would like to thank the Reviewer for the positive comments and for giving us the opportunity to strengthen and clarify some key points of our work. We carefully addressed each of them and we submit a revised version of the manuscript TJHR-2022-0060.R1. The detailed responses to the comments are shown in the documents below. The original comments are shown in italics, the numbering of the lines refers to the revised manuscript. Also, the new text in the revised manuscript is in blue.

Make it easy for the reviewers

Repeat the question (make it easy)

1) *[...]Since this article deals with 3D CFD model in multiphase flow when the air phase is compressible, the introduction should include the work carried out on this topic.*

Response: We understand the point of the Reviewer. Therefore, we added relevant references about 3D CFD simulations of multiphase flows, specifically of a Taylor, bubble such as Magnini et al. (2013) and Taha and Cui (2006). The manuscript has been modified as follows:

Section 1 on Line#81: "The derived scaling laws are validated by using computational fluid dynamics (CFD) simulations of a compressible air-water flow, namely a Taylor bubble, i.e., slug-shaped bubble of compressible gas, raising in a vertical pipe filled with fluid. CFD has been used for this purpose in, e.g. Ambrose et al. (2016), Magnini et al. (2013) and Taha and Cui (2006)."

Acknow-ledge the point (even if not useful) and give a clear response

Repeat what you added in the paper also in the response letter (make it easy)

Conclusions

- If you want to write a good paper, start with a **novel research idea** and **work hard to get good results** (repeat experiments)
- Aim for a **multi-method approach**, try to derive **generic results** and run **numerical simulations with open-source codes**
- **Plan your article** structure carefully with the outlined headings
- **Put a lot of care into your artwork**; work with vector files and plan the figure and font sizes early on
- Use *Scopus*, *Google Scholar* or *Web of Science* to look for **high-quality literature** and add some of the targeted journal
- **Avoid obvious mistakes** for the editor to reject your paper (e.g. out of scope, follow Author Guidelines, no citation from the journal)
- In your **reviewer response letter**, **make it easy for the reviewers, showcase your expertise but stay polite**
- Carefully read the proof and get your paper published; only time will show how influential your paper will be

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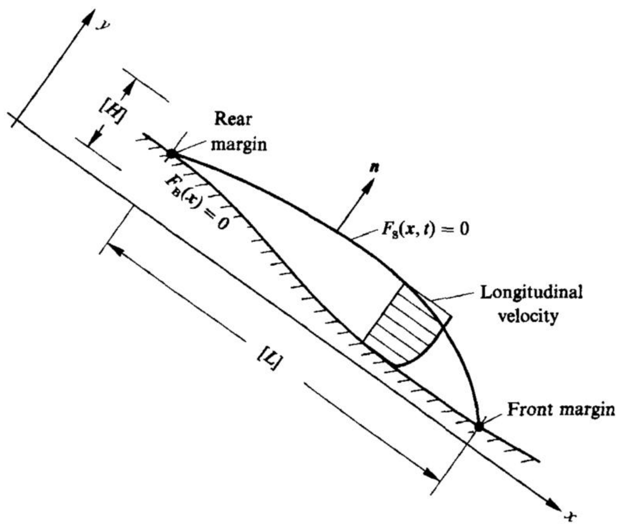
Questions and Comments?



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