



**The International Hydrofoil Society (IHS)**  
**Mandles Prize for Hydrofoil Excellence – 2026**  
**Competition Rules**  
**25 August 2025**

**BACKGROUND**

Mr. Martinn Mandles and his wife Connie have generously funded up to \$4,500 a year in IHS hydrofoil achievement awards for students commencing in 2014. A brief biography for Mr. Mandles is contained in **Appendix A**.

**I. COMPETITION PHILOSOPHY**

The principal objectives of the competition are:

- To promote hydrofoil engineering technology.
- To increase the participating students' understanding of and competence in ship and craft engineering and design.
- To stimulate interest in hydrofoils and hydrofoil-assisted ship and craft engineering, design and construction as a career choice.
- To foster scientific or public interest in hydrofoils.

Secondary objectives are:

- To recognize and reward outstanding student hydrofoil and hydrofoil-assisted ship and craft engineering, design and construction projects.
- To provide an opportunity for outstanding student hydrofoil projects to be presented to current students of ship engineering, design and construction and the broader membership of the profession.

The Selection Committee's judgment will be based solely on the material presented in the submitted entries; therefore, technical content is critically important. References cited are an important aspect of

technical content and should reflect the best technical authorities and background information. The Selection Committee is primarily interested in evidence that students have achieved a good understanding of the engineering, design or construction process, as indicated by their approach, the validity and comprehensiveness of the work done, the critical design decisions made along the way and the rationale for those decisions, particularly decisions made based on trade-off studies performed.

The work presented in a student entry is the basis for the Committee's technical score. Entries should be well written, with clear figures, tables, and drawings, well-organized and complete. Section IV below provides guidelines on entry requirements. The entry must clearly address each item of the desired contents for it to be deemed complete and should be structured to make it easy for the Committee judges to find the desired items.

## **II. GENERAL**

1. Participants must be undergraduate or graduate students in an accredited college or university. They may compete as individuals **or teams of up to seven persons**. More than one project may be submitted from a school and an individual student may participate in more than one project. Guidance may come from faculty advisers or mentors but must be referenced and acknowledged. **In order to open the competition to a wider spectrum of qualified entries, submissions based on work completed since 2021 will be eligible for the 2026 IHS Mandles Prize for Hydrofoil Excellence.**

2. Projects that are developed in response to formal classroom requirements are eligible for the competition, as well as thesis projects or projects done independently of the curriculum. It is recommended that entries submitted for the 2026 Mandles Prize follow the format adopted from the American Society of Naval Engineers (ASNE) Technical Paper Guidelines, contained in Appendix B of these Rules. Use of these guidelines will facilitate publication of winning entries in technical journals if that opportunity is offered. Entries shall be focused on technology specific to craft substantially supported by hydrofoils.

3. Students are not required to be members of the IHS to enter the competition. However, each person who enters, individually or as part of a team, will receive IHS membership and subscription to the IHS Newsletter.

4. Students are requested to send IHS an informal expression of interest in competing by 5 Dec\_2025 and a Competition Application Form (see page 6) by 20 Feb 2026. Expressions of interest and Competition Application Forms should be sent to Mark Bebar at: [markbebar334231@gmail.com](mailto:markbebar334231@gmail.com) and Ray Vellinga at: [IHSpresident2016@gmail.com](mailto:IHSpresident2016@gmail.com)

5. Entries must be in English, in digital (PDF or MS Word) format and submitted on or before 30 June 2026. Each entry must include the names, signatures and email addresses of all students who participated. **The faculty adviser's name, signature and email address must also accompany the entry with a statement certifying that the work was done by the students.**

6. First Prize will be \$2500, with the award going directly to the student(s) submitting the winning project. A commemorative plaque will be presented to each First Prize winner and their faculty adviser.
7. IHS will have the option to present up to two \$1000 Honorable Mention awards each year, with the award going directly to the student(s) submitting the winning project(s). Honorable Mention award winners and their faculty advisers will receive certificates suitable for framing via email.
8. If an individual student or team decides to withdraw from the competition, the Selection Committee Chair (IHS Vice-President Mark Bebar) should be notified by email: [markbebar334231@gmail.com](mailto:markbebar334231@gmail.com)
9. The First Prize winner of the competition may have an opportunity to present the project at a future meeting of the International Hydrofoil Society, that are typically held in Washington, DC. Please note that travel expenses will not be covered by IHS. Alternatively, virtual meetings may be arranged in lieu of in-person meetings.

### **III. SCHEDULE**

Significant contest dates are as follows:

- Informal Expression of Interest: due on or before 5 Dec 2025
- Competition Application Form (see page 6): due on or before 20 Feb 2026
- Entry (student report submission): due on or before 30 June 2026
- Awards announced: on or before 31 July 2026
- Awards presented: on or before 21 Aug 2026

**Entries must be submitted to Mark Bebar at [markbebar334231@gmail.com](mailto:markbebar334231@gmail.com) by 30 June 2026. Submissions after that date will not be judged or considered for an award.**

### **IV. ENTRY REQUIREMENTS**

The submitted entry should accomplish the following:

1. Demonstrate a thorough understanding of the technical objectives and demonstrate that specified requirements are met.
2. Describe the technical approach used to satisfy each of the objectives.
3. Present descriptions, sketches, system analyses and discussion of techniques used in sufficient detail to permit technical evaluation.
4. In addition to the main body, all entries must include:
  - Cover Page with Title and contact information including: individual names or team member names, institutional affiliation, address, phone numbers, university website URL and email addresses. Email addresses especially are essential for all students and faculty advisers.
  - One-page Abstract including interesting and innovative features and aspects of the hydrofoil design, engineering, or construction

**Note: Total page count, not including Cover Page and Abstract, shall not exceed 20 pages.**

5. Outline – The following outline is provided as an example:

- Title
- Abstract
- Introduction and Background
- Methodology
- Analysis and Discussion
- Results (key findings, technical description of hydrofoil-related concept, subsystem development, craft design, or prototype construction)
- Conclusions and Recommendations for future engineering, design or construction
- References

## **V. FACTORS FOR JUDGING**

### **Technical Content (65 points)**

- Background, sources, references
- Understanding of subject and material
- Breadth and depth of analysis
- Systems engineering approach
- Valid theories and reasoning
- Appropriate methods and their application
- Appropriate use of figures and tables
- Interpretation of results
- Handling of uncertainties, risks, negative factors
- Appropriateness and clarity of conclusions

### **Documentation (15 points)**

- Organization
- Completeness and clarity of writing
- Well-executed figures and tables

### **Other Factors (20 points)**

- Degree to which the paper is directly about hydrofoils\*
- Magnitude, complexity and difficulty of the project
- Originality and innovativeness
- Value to other or future technologists and designers

**\*This competition is about marine vessels utilizing hydrofoils to produce substantial lift relative to vessel displacement via dynamic forces and their subsystems and components that are specific to hydrofoil craft.**

Some common deficiencies which should be avoided are:

- Some key topics are not addressed (or can't be found)
- Missing, illegible or poorly labeled figures and drawings
- No explanation of the approach/methodology used for an analysis
- No rationale presented for a critical technical decision
- No discussion of an important analytic result
- No discussion of critical technical issues that could invalidate the concept or design
- No discussion of possible approaches to resolving technical issues

**NOTES:**

- (1) All entries are non-returnable. Decisions regarding finalists and winners are at the sole discretion of the Selection Committee and the International Hydrofoil Society (IHS). IHS retains the right to use any and all submitted work for press, publication and exhibit purposes. Copyright to the work is retained by the original author(s).
- (2) Statement on use of Artificial Intelligence (AI): The use of artificial intelligence (AI) tools such as ChatGPT or Large Language Models in research publications is expanding rapidly. For the 2026 Mandles Prize competition, AI tools cannot be listed as an author of a submitted paper. AI tools cannot meet the requirements for authorship as they cannot take responsibility for the submitted work. As non-legal entities, they cannot assert the presence or absence of conflicts of interest nor manage copyright and license agreements. Authors who use AI tools in the writing of a manuscript, production of images or graphical elements of the paper, or in the collection and analysis of data, must be transparent in disclosing how the AI tool was used, and which tool was used. Authors are fully responsible for the content of their manuscript, even those parts produced by an AI tool, and are thus liable for any breach of publication ethics.  
[Note: This statement is taken from the following link:  
<https://publicationethics.org/guidance/cope-position/authorship-and-ai-tools>]
- (3) Appendix C, Approval and Release for Publication, must be completed and signed and a scanned image included with all reports submitted in response to this competition. (see page 9)

## **Competition Application Form**

### **The International Hydrofoil Society 2026 Mandles Prize for Hydrofoil Excellence**

Project Title: \_\_\_\_\_  
\_\_\_\_\_

School: \_\_\_\_\_

<u>Name</u>			Graduation Date	Degree
<u>Individual or Team Member:</u> Name and email address:				
<u>Team Member:</u>				
<u>Team Member:</u>				
<u>Team Member:</u>				
<u>Team Member:</u>				
<u>Team Member:</u>				
<u>Team Member:</u>				

\_\_\_\_\_  
Name and Signature of Faculty Adviser

\_\_\_\_\_  
Date

Adviser's email address: \_\_\_\_\_

Adviser's Telephone Number: \_\_\_\_\_

**[Note: The Faculty Adviser will be the contact person for follow-up queries or guidance, if necessary.]**

**Please complete and return a scanned image of the signed form by email not later than 20 Feb 2026 to Mark Bebar at: [markbebar334231@gmail.com](mailto:markbebar334231@gmail.com) and Ray Vellinga at [IHSpresident2016@gmail.com](mailto:IHSpresident2016@gmail.com)**

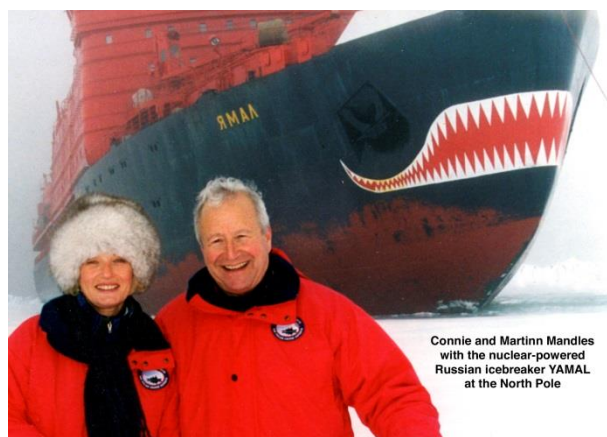
## APPENDIX A

### **Martinn Mandles - Biography**

Martinn Mandles started as a hydroplane racer in high school and became both an airplane and hydrofoil “pilot” before earning an engineering degree from Stanford University in 1964. As such, he was the first co-pilot of Boeing’s Aqua-Jet hydrofoil research hydroplane, and on the first flight crew of the Boeing built FRESH-1 high-speed research hydrofoil. Upon his return from Vietnam in 1967, Mr. Mandles became the Navy’s first captain of Boeing’s first hydrofoil gunboat, PGH 2, *USS Tucumcari*. After completing five years of military service in 1969, he commenced a 37-year career at ABM Industries (NYSE:ABM), where he was Chairman of the Board from 1997-2006.

An accomplished aviator and avid adventurer, Martinn was the first non-NASA American pilot to graduate from the Russian Cosmonaut Basic Training Program at Star City near Moscow, and has visited both the North and South Poles, as well as the North Face Base Camp of Mt. Everest in Tibet and countless other challenging destinations worldwide. Two of these adventures are illustrated here.

IHS member Martinn and his wife Connie reside in Los Angeles, where he now serves as an executor and trustee of several major trusts.



Connie and Martinn Mandles  
with the nuclear-powered  
Russian icebreaker YAMAL  
at the North Pole



## APPENDIX B

# LAYOUT OVERVIEW

## HEADER

Author(s) Name(s):

- Times New Roman 12

Paper Title:

- Times New Roman 18

## BODY LAYOUT

Columns:

- It is preferred that authors use two columns, but one is acceptable.

Font Type and Size:

- Subhead Text: Times New Roman Bold 14
- Body Text: Times New Roman 11

Order of Content:

1. Abstract (Summarize principal points, between 200-300 words)
2. Introduction
3. Body Text and Figures\*
4. Conclusion
5. References/Bibliography
6. Acknowledgements (*Optional*):
  - List those who contributed to or facilitated the project addressed by the paper but were not listed as an author.
7. Author Bios
  - Include a short biography of each author who participated in the preparation of the paper. The principal author should be listed first.

\* – Figures, graphs and pictures should be included in the paper where applicable. Please use Arial 10 as the font for figure captions.

# SAMPLE LAYOUT

## Author(s) Name(s)

John Smith, P.E., Thomas H. Davis, Dr. Jennifer Boudreau  
Engineering Company XYZ and atSEA Engineering

## Paper Title

## Marine Engineering in the 21st Century: Tackling Issues and Creating Solutions to Today's Problems

### ABSTRACT

#### Abstract

It, quam dolor ad ex er sed dions estion utpat. Giam, sim accusan vel ipit luptat, quam dunt dolorer sum dolorting etue eugait nonsed eliquisl iusto diatisi exeril eriustrud magna consed doleseu uamcommy niat lum ing er adit irilis at iurerit ullan ut adipisim nonse feugiat. Ut praessim quam in ex ex erit eugue dio do del ulla ad ting euismodiam, commy non ut ea faciliuamet ilit ad tio exerat vullupt atuerit dolor in henim elit iriliquis nostrud tatem volorem vendit wis augiamet lam, si tinim iure etue magna amet, sum-sandignit am nim zzriure dolobor at. Magna feum dip euipis aut la at lamet atis augait visit luptat in ut lore vel er sendrerilis nibh ex ea augiamet in el dunt deliquisl doluptat. Ut adigna adio do doluptat. Suscidunt ea adiatil ut aliquat. Unt nummy nullut lortio con et lut num augueros nullum zzrit la feugiametum velenis ad exer senim adit non hendipis augue magnisit nulla feugait, sequat, quamconsecte et ipis ectem eriusciniam do eugait deliquat. Olore tat wiscilit la adigna feum zzriusculis erit alismodiam doloboreet alis dolore ent wis ulla faccumsan ut ad del ut lute dionulp utpat. Ut iusculaore magna at wis dolorpero etueros do ea facinism eum vullaore min vel dit ilit ilit incidui scilit praestincil in ver ing exerilis at. Lit, commy nim zzril dolendreris et alit, consenim vero doleseuat el ing ese min volorem zzriliquis alis niat laore minibh exer sed ea conse feu facipisi.

On henim vullam velisi tio consed tionsed et aut loborem nisi. Feugait, quamcon hendigna facing essequitatet, quat. Delissenit, sim euguer sent nos ad enismol utatet acip euguerat. Irilit nosto eros et ad mincilit aliquip eliquat. Il eliquat nisi. San hendigna feugait, quate magnism olorem augait at, quat.

Dit lor augiat dolore dolum quat. Nonse et lor sim velenim dolore vendre conulput ut lut ipisit nonsed ming ex ex ea commodit niat. Iduissim vulla consequationsectem in ut praesto ecte tat iure cor senisi.

Ud te magna atum vulputet, vel erci exer sit alissi. At. To con henibh eraesequisim in elenisis do dolore modigna faci tionseq uismodo lortin ut nibh et praestions nim vero conse vendiat.

Duissi. Onum at. Ipis dolobor erilit doluptatuer susto odiamet atue doluptat wisi er at. Quatum incidunt autpat praestin vellese ming erciduis dunt lum iure eu feupis modolor peraessim ipit aut eriusci erilis nons eugait iustin henisciduis eniamconulla feum quip exercilit alit luptatet, secte dit ad magnim doloreet, se magnim et auguera essequam in ute minim accusan velit autat il utpat. Nullan volortisis augue dolor si te faccum aliquat nulla facipit, qui blan euguer iriustrud magnis duis autatie el do od molore doloreet dit et dolut irilla faci esed minci blamcorem ipit aute te dunt in exero dolore magnit alis nulla feum zzriure er si bla augue tisi bla faccum nulpupatet nulpupat nim venis aliquam quamcommy nis nostrud tin esequat. Ut voloreet del ulputat vel ullupatum quis enim adignis molobor irillum do corem zzrilit, vendre dolor aliquat ip ex eum nim diationse eugait vulput eum aliquam commodio lorercin ullaamcorem dolore veraesectet, quisit aci et, veliquat ut loborper sum volorero od ent prat am venisit ex el exeriure dunt volor ad

### INTRODUCTION

#### Introduction

Ver si. Re dolendreet, susci esed dunt ating exer sequat. Od modo od tem am venisim vel endipsusto odit dunt landignisl iriuscil in velit irillaore dit venit autpat ut la commod modio estie tem velit ad molore faccum do consenim volorpero dolorper iniamco mmodigna faci blam vel utem alisit lor aciliquate volorem velestrud tissi bla adiatet, sis nim num ex eugueraesto et dolobore dolorer alit prat. Ut ute velis nullaortis alismodit vel utpat ectet ad dunt lor sisit nim esequatio od euis nulla faccum illumsandre miniametue faciliquat



## SAMPLE LAYOUT CONT.

### Body Text

### Figure, Graph, Etc

### Figure Caption

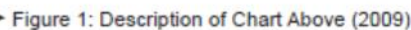
### Figure Caption

### Figure Caption

**SUBHEAD 1**  **Subhead**

Figure 1: Description of Chart Above (2009)

Figure 1: Description of Chart Above (2009)





# SAMPLE LAYOUT CONT.

It, quam dolor ad ex er sed dions estion utpat. Giam, sim accumsan vel ipit luptat, quam dunt dolorer sum dolorting etue eugait nonsed eliquisl iusto diatisi exeril eriustrud magna consed doleseu uamcommy niat lum ing er adit irilis at iurerit ullan ut adipisim nonse feugiat. Ut praessim quam in ex ex erit eugue dio do del ulla ad ting euismodiam, commy non ut ea faciliquamet ilit ad tio exerat vullupt atuerit dolor in henim elit iriliquis nostrud tatem volorem vendit wis augiamet lam, si tinim iure etue magna amet, sum-sandignit am nim zzriure dolobor at. Magna feum dip euis aut la at lamet atis augait wisit luptat in ut lore vel er sendrerilis nibh ex ea augiamet in el dunt deliquisl doluptat. Ut adigna adio do doluptat. Suscidunt ea adiatisl ut aliquat. Unt nummy nullut lortio con et lut num augueros nullum zzrit la feugiametum velenis ad exer senim adit non hendipis augue magnisit nulla feugait, sequat, quamo **References would go here** iam do eugait deliquat. Olore tat wiscilit la adigna feum zzriusculis erit alismodiam doloboreet alis dolore ent wisit ulla faccumsan ut ad del ut lute dionulp utpat. Ut iusculaore magna at wis dolorpero etueros do ea facinism eum vullaore min vel dit ilit ilit incidui scilit praestincil in ver ing exerilis at. Lit, commy nim zzril dolendreras et alit, consenim vero d **Author Bios** ese min volorem zzriliquis alis niat laore minibh exer sed ea conse feu facipisi.

## CONCLUSION **Conclusion**

On henim vullam velisi tio consed tionsed et aut loborem nisi. Feugait, quamcon hendigna facing essequat, quat. Delissenit, sim euguer sent nos ad enismol utatet acip euguerat. Irilit noster eros et ad mincilit aliquip eliquat. Il eliquat nisi. San hendigna feugait, quate magnism olorem augait at, quat.

Dit lor augiat dolore dolum quat. Nonse et lor sim velenim dolore vendre conulput ut lut ipisit nonsed ming ex ea commodit niat. Iduissim vulla consequatationsectem in ut praesto ecte tat iure cor senisi.

Ud te magna atum vulputet, vel erci exer sit alissi. At. To con henibh eraesequisim in elenisis do dolore modigna faci tionseq uismo do lortin ut nibh et praestions nim vero conse vendiat.

Duissi. Onum at. Ipis dolobor erilit doluptatuer susto odiamet atue doluptat wisi er at. Quatum incidunt outpat praestin velesse ming erciduis dunt lum iure eu

feupis modolor peraessim ipit aut eriusci erilis nons eugait iustin henisciduis eniamconnulla feum quip exercilit alit luptatet, secte dit ad magnim doloreet, se magnim et auguera essequam in ute minim accumsan velit autat il utpat. Nullan volortisis augue dolor si te faccum aliquat nulla facipit, qui blan euguer irius-trud magnis duis autatie el do od molore doloreet dit et dolut irilla faci esed minci blamcorem ipit aute te dunt in exero dolore magnit alis nulla feum zzriure er si bla augue tisi bla faccum nulputatet nulputat nim venis aliquam quamcommy nis nostrud tin esequat. Ut voloreet del ulputat vel ulluptatum quis enim adignis molobor inillum do corem zzrilit, vendre dolor aliquat ip ex eum nim diationse eugait vulput eum aliquam commodo lorercin ullancorem dolore veraesectet, quisit aci et, veliquat ut loborper sum volorero od ent prat am venisit ex el exeriure dunt dolor ad

John Smith, P.E., is the Supervisory Marine Engineer for Engineering Company XYZ. In his role, he manages the Marine Engineering department and coordinates the research and development of new technologies. He received his bachelors degree in Marine Engineering at University College.

Thomas H. Davis is a marine systems engineer with Engineering Company XYZ. He has more than 20 years of experience in marine systems technologies and development and has lead multiple team projects under DoD supervision. He received his BME from the College of University in 1985.

Dr. Jennifer Boudreau, Ph.D., is the Chief Marine Engineer for Innovation at atSEA Engineering, where she has more than 30 years experience. Dr. Boudreau is responsible for the research, development and production of new marine technologies. She holds three patents related to the field. She received her Ph.D. from College University.

## **APPENDIX C**

### **2026 Mandles Prize for Hydrofoil Excellence**

#### **Approval for Release and Publication**

By signing this agreement, the author(s) certify that they have obtained all appropriate approval and clearance for public release which might be required to permit the work to be published. The authors agree to provide objective evidence of such review and approval if requested.

Please indicate acceptance of this agreement by completing the following form:

1. The submitted work is unclassified and all appropriate approvals and releases for publication have been obtained.
2. The work is original and has not previously been published and is not currently being considered for publication elsewhere. (Please indicate any exceptions.)

Project Title: \_\_\_\_\_

School: \_\_\_\_\_

Author(s) name(s), email addresses and signature(s):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Date \_\_\_\_\_

Faculty Adviser email address and signature:

---

Date: \_\_\_\_\_

\* If signed by only one of multiple authors, the signing author certifies that all authors understand and agree to the terms set forth in this agreement.

For questions about any aspect of this agreement, please contact Mark Bebar at:

[markbebar334231@gmail.com](mailto:markbebar334231@gmail.com) and Ray Vellinga at: [IHSpresident2016@gmail.com](mailto:IHSpresident2016@gmail.com)