

CRUISE LINES INTERNATIONAL ASSOCIATION PRESENTS:

# STUDENT DESIGN COMPETITION

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NOVEL LIFESAVING APPLIANCE FOR MODERN CRUISE SHIPS

## OBJECTIVE

Using a "blank sheet" approach, develop a high-level concept design for a novel lifesaving and/or evacuation system for modern cruise ships. Detailed rules and submission requirements are attached.

## ELIGIBILITY

Open to all students currently enrolled in technical undergraduate or graduate programs, working in teams of up to 4.

## PRIZE

First Place: **\$10,000**

Runner Up: **\$2,500**

The winning team will be invited to present their design to a panel of industry experts.

## KEY DATES

Entry Applications Due:

**September 10, 2020**

Materials Distributed:

**September 11, 2020**

Final Submissions Due:

**November 20, 2020**

Selection Committee Review:

**November 21 - December 3, 2020**

Winner(s) Notified:

**December 4, 2020**

## CONTACT

Please direct any inquiries related to the competition to [designcompetition@cruising.org](mailto:designcompetition@cruising.org)



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## COMPETITION DETAILS, RULES AND REQUIREMENTS

### Overview

This competition challenges students to answer the question *"What does the next generation of lifesaving systems for cruise ships look like?"* without being constrained by the existing regulatory framework. Participants are encouraged to take a "blank-sheet" approach to their designs, rather than building on or modifying existing lifesaving appliance systems. A panel of industry experts will judge submissions for their originality and feasibility.

### Participation

The competition is open to any student or group of students (up to four per team) currently enrolled in technical undergraduate or graduate programs, including but not limited to naval architecture, marine engineering, mechanical engineering, systems engineering, and human factors engineering.

### General Format

Over the course of the competition period, students working as individuals or in teams will work to produce a conceptual life-saving appliance design for installation on a modern passenger ship, based on owner's requirements provided by the competition organizers. Each individual team is to produce and submit a concise design report, which will be judged by the selection committee. The winning team will

be awarded a cash prize and the opportunity to present their design to a group of industry executives with expertise in passenger ship safety.

### Prizes

The prizes will be awarded to the winning teams as follows:

**First Place:** \$10,000

**Runner Up:** \$2,500

Prize money will be awarded directly to the members of the winning team. A designated team leader will be responsible for coordinating the prize disbursement process with CLIA.

Not all prizes may be awarded if an insufficient number of high-quality submissions are received.

### Judging

The Selection Committee will consist of 3-5 experts in maritime safety who will judge each submission based on creativity/innovation, feasibility, technical documentation, and overall quality. All communication with the judging panel, including report submission, will be conducted through the competition coordinator (CLIA). Submissions will be scrubbed of all identifying information before being provided to the Selection Committee for final review.

## COMPETITION DETAILS, RULES AND REQUIREMENTS

### Submission Requirements

Submissions will consist of a concise design report of no more than 15 pages, plus any necessary appendices containing sample calculations and technical data. The report must include a design rationale/summary of no more than one page. The report should thoroughly describe the following elements of the design:

- Overall design/layout
- Interface with parent ship
- Method of operation
- Evacuation analysis
- Preliminary weight and size estimate
- Seaworthiness and post-evacuation survivability

In addition, the report should briefly describe the following elements of the design:

- Maintenance and testing procedures
- Operational limitations (trim/list of parent vessel, sea state, weather conditions, etc.)
- Life expectancy of the system and assumed periodicity of use
- Failsafe or redundant design elements

Participants are encouraged to take a holistic approach to the design, considering the complete process from initial mustering through

and including survival and rescue, as well as routine maintenance and testing.

### Rules

- Students may work individually or in teams of up to four people.
- A faculty advisor may be consulted on specific technical matters, but design concept and all work presented in the report should be the work of the competing students.
- Citations should be provided for all sources used, including any data sets used in sample calculations.
- Due consideration should be given to ensuring that the submitted design is original.
- Multiple teams may enter from a single university, but students may not join more than one team.
- All students on a team must be from the same university.
- All questions or requests for clarification should be submitted in writing to [designcompetition@cruising.org](mailto:designcompetition@cruising.org).

### Key Dates

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## ENTRY APPLICATION

*This application must be submitted by email to [designcompetition@cruising.org](mailto:designcompetition@cruising.org) no later than September 10, 2020.*

**Team Name<sup>1</sup>:** \_\_\_\_\_

**University:** \_\_\_\_\_

### ***Team Leader<sup>2</sup>***

**Name:** \_\_\_\_\_ **Email:** \_\_\_\_\_

**Major:** \_\_\_\_\_ **Graduation Year** \_\_\_\_\_

**Nationality:** \_\_\_\_\_ **Undergraduate** ☐ **Graduate** ☐

### ***Additional Team Members***

**Name:** \_\_\_\_\_ **Email:** \_\_\_\_\_

**Major:** \_\_\_\_\_ **Graduation Year** \_\_\_\_\_

**Nationality:** \_\_\_\_\_ **Undergraduate** ☐ **Graduate** ☐

**Name:** \_\_\_\_\_ **Email:** \_\_\_\_\_

**Major:** \_\_\_\_\_ **Graduation Year** \_\_\_\_\_

**Nationality:** \_\_\_\_\_ **Undergraduate** ☐ **Graduate** ☐

**Name:** \_\_\_\_\_ **Email:** \_\_\_\_\_

**Major:** \_\_\_\_\_ **Graduation Year** \_\_\_\_\_

**Nationality:** \_\_\_\_\_ **Undergraduate** ☐ **Graduate** ☐

<sup>1</sup> Team names are optional, but recommended if there are multiple teams from the same university

<sup>2</sup> The team leader will be responsible for all communication with competition organizers