



The Institute of Navigation
Proudly Announces Its



Annual Autonomous Snowplow Competition



Interested In Sponsoring The Event?

Help us continue to encourage students in the development of the art and technology of navigation, as well as science, engineering, and math

Sponsorship of the ION's Autonomous Snowplow Competition is welcome in any form!

As a sponsor, your brand will be displayed at all events and your company can support via volunteering

Suggested forms of sponsorship:

- **Funding:** All sponsor funds directly used to award prizes or support the competition
 - ◇ Requested funding is \$2500 or above
 - ◇ Student travel grants at \$500
 - ◇ Consider sponsoring an entire playing field or judging event
- **Volunteering:** Show your support in assisting the event operations
 - ◇ Like to meet and greet? Help host the Student Presentations evening
 - ◇ Good at setting up tents and organizing? Event Set-up is for you
 - ◇ Like to be part of the action and part of a team? Check out the Snowfield Judging and Pit Crew
 - ◇ Have an artistic eye? Record the event with Photography or Videography

If you are interested in sponsoring this competition, please contact:

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For more general information check out our website:
www.autosnowplow.com

Next Competition Year
January 2017

The Institute of Navigation (ION) is the proud organizer of the Annual Autonomous Snowplow Competition. This competition is operated by the ION North Star Section based in Minneapolis, MN, and includes ION members from Minnesota, North Dakota, South Dakota, and western Wisconsin. ION's Satellite Division directly sponsors the competition.

The contest objective is for teams to design a snowplow that will autonomously clear snow from a pre-defined field. The competition invites and challenges teams in high-performance autonomous vehicle guidance, navigation, and control. It is designed to encourage students that are interested in the art of navigation and in the general areas of science, technology, engineering, and mathematics.

Teams must build a vehicle to autonomously plow snow entirely from two snowfields in a set amount of time. The two snowfields have a straight single "I" shape and a triple "I" shape. The teams can use augmentation systems, such as visual cues or GPS, to aid the vehicle's navigation system, however there will be no direct human control of the snowplow during its competition run.

The competition invites teams from colleges and universities, and is also open to the general public. As student involvement is a major objective of the competition, general public teams will be required to have at least one student as a contributing member and presenter of their design in all competition events, and all team members must be 18 years or older.

The annual competition is held in conjunction with the Saint Paul Winter Carnival during January in St. Paul, MN. The contest is a multi-day event during its competition week:

- Thursday – Teams present their final snowplow designs to a judge panel of industry professionals, as well as a public audience
- Friday – Teams demonstrate their snowplow's operability and safety features
- Saturday – First day of on-field competition, with teams clearing the single "I" snowfield using their vehicles
- Sunday – Second day of on-field competition, with teams clearing the triple "I" snowfield using their vehicles

Judging occurs throughout the competition – from the on-paper design phase months in advance, through the final day of the on-field competition. In the design phase, teams are evaluated on their snowplow designs and skill in presenting their designs to the judges during a Preliminary Design Review. During the competition week, teams are judged on their final design, through presentations, and their snowplow's performance removing snow on two different shaped courses.

Teams that accumulate the most points throughout the competition will be awarded cash prizes and trophies for their success, including the prestigious Golden Shovel Award for best student presentation and the Dr. Nattu Golden Smile Award for the best sportspersonship demonstrated by a team.



For Additional Information Please Visit
www.autosnowplow.com