

MagnetiSiM 2023: Make SENSE of your SENSORS competition



Unleash your creativity and dive into the fascinating world of magnetism by participating in our exciting competition. Design and build a captivating project using Hall sensors that will impress judges and showcase your innovation. Get ready to bring your ideas to life and make your mark in the world of magnetic technologies!

1. Eligibility

- 1.1. Participants can enter individually or as a team of up to two members.
- 1.2. Category 1: High school students ([registration form](#))
Category 2: Undergraduate students ([registration form](#))

2. Goal

- 2.1. Step into the realm of Hall effect sensors and discover their potential in various applications. We offer you an opportunity to explore, experiment, and push your boundaries. Showcase your creative ideas and bring them to life by incorporating Hall effect sensors in your projects.

3. Rules

- 3.1. Your project must utilize at least one Hall effect sensor. Introductory materials on Hall sensors are available on the [MagnetiSiM 2023 competition website](#) to help you get started.
- 3.2. Document and demonstrate the effectiveness of your project. Show the judges how your setup works and the value it brings.
- 3.3. We encourage you to be creative, innovative, and clever in your approach!

4. Prizes

- 4.1. Shortlisted submissions stand a chance to win Arduino kits of their choice worth up to \$500 (terms and conditions apply). These valuable tools will enhance your future projects and provide new opportunities for exploration. Find out more about prizes [here](#).

5. Bonus segment

- 5.1. As a glimpse into MagnetiSiM 2024, you have the option to showcase your setup to individuals and groups outside your team (e.g. friends, colleagues, etc). Educate and engage them with your project, highlighting the Hall effect and the effectiveness of your creation. Capture this experience in a travel diary with pictures and details of the audiences you interacted with.

6. Judging criteria

- 6.1. Incorporation and demonstration of Hall effect sensors: Showcase your skillful integration of Hall effect sensors in your project.
- 6.2. Creativity, innovation, and novelty: Impress the judges with unique and fresh ideas.
- 6.3. Quality of demonstration: Present your project effectively, demonstrating its capabilities.
- 6.4. Impact of the bonus segment: Show the value of your project by inspiring and educating others.

7. Submission package

- 7.1. Prepare a concise report of 2-4 pages, including:
 - Detailed information on the parts and components you utilized.
 - A breakdown of project expenses.
 - Step-by-step instructions to explain your setup.
 - Photos to support your report are highly encouraged.
- 7.2. Create a video, up to 7 minutes long, showcasing your final project and demonstrating the versatility of the Hall effect sensor.
- 7.3. Share a travel diary documenting the interaction of your setup with audiences. Include pictures and details (name, age group, affiliation, email) of the individuals you engaged with.

8. Virtual science fair

- 8.1. Participating groups will have the opportunity to showcase their work at a virtual science fair, gaining exposure to an international audience. Stay tuned for more details on this exciting event!

9. How to apply for the competition

- 9.1. Visit our event website and fill out the application form (one form per group): [Category 1 registration form](#) and [Category 2 registration form](#)
- 9.2. The application period is open until 2 October 2023. Don't miss out!
- 9.3. For Category 1 teams, it is compulsory to appoint a project advisor, preferably a teacher, who will supervise your project. A letter of agreement from the project advisor is required, with the students being mainly responsible for the work.
- 9.4. You can fund your own parts or apply for funding to obtain a basic starter kit. Funding is available for Category 1 teams on a first-come, first-served basis. Indicate your interest in funding on the application form.
- 9.5. All participating teams will receive a certificate of participation after the competition.

10. The buddy program - for graduate students

- 10.1. Graduate students can sign up for an exclusive opportunity to guide and answer scientific inquiries from participating groups.
- 10.2. Allocate an average of two hours per week to support the teams.
- 10.3. Engage with participants on the virtual platform and share your expertise.
- 10.4. Stand a chance to win the Best Buddy Award worth \$300, recognizing your dedication and mentorship.
- 10.5. All participating buddies will receive a certificate of participation after the competition as proof of their contributions.
- 10.6. Sign up on the [buddy application form](#) and embark on a rewarding journey with young innovators.

11. The buddy program - for participants

- 11.1. As a participant, you'll be paired with a graduate student buddy who will assist you in building your desired Hall effect sensor devices, alongside your project mentor.
- 11.2. Regularly update your buddy with your project progress to receive valuable feedback and guidance.
- 11.3. You can nominate your favorite buddy for the Best Buddy Award, showcasing the fruitful collaboration and support you received.

12. Timeline and important dates for 2023

10 July (Mon)	Registration open
1 September (Fri)	Final date for proposal submission requests UTC 2359
2 October (Mon)	Submission package deadline UTC 2359
11 November (Sat)	Presentations and awards at science fair (tentative)

Please send all inquiries to SiM@ieeemagnetics.org.

Find out more about IEEE Students in Magnetism (SiM) by the IEEE Magnetics Society at StudentsinMagnetism.org.