Lemelson-MIT Student Prize

APPLICATION INFORMATION

Apply Now for the 2021 Lemelson-MIT Student Prize Initial Application Deadline: September 25, 2020

To learn more and to start your application, visit: http://lemelson.mit.edu/studentprize

The Lemelson-MIT Student Prize is a nationwide invention competition that honors undergraduate teams and individual graduate students who have developed technology-based inventions with tested prototypes in categories that represent significant sectors of the economy: healthcare, food/water and agriculture, transportation and mobility, and consumer devices and products. In each of the four prize categories, undergraduate teams win $10,000 for their invention and graduate students win $15,000 in recognition of their portfolio of inventions. In addition, winners receive a national media campaign, exposure to investment and business communities, and a paid trip to an award celebration (EurekaFest) in June 2021.

Prize Categories:

Students must have a tested prototype of a technology-based invention that fits into one of the four prize categories:

- **"Cure it!"** for inventions that involve healthcare
- **"Eat it!"** for inventions that involve food/water or agriculture
- **"Move it!"** for inventions that involve transportation or mobility
- **"Use it!"** for inventions that involve consumer devices or products

Eligibility Requirements:

All 2021 Student Prize applicants must be full-time, matriculated, degree-seeking students in the **fall semester of 2020** at any U.S. college or university. Postdocs, audit students, and alumni are not eligible.

Students apply to the competition as one of the following two options:

- An **undergraduate team** composed of 2-5 members that is founded and led by an undergraduate student. Teams must have a **tested prototype of one invention** that fits into one of the four prize categories. Graduate students can be part of the undergraduate team, provided there is a majority of undergraduate team members. Individual undergraduate students cannot apply without a team. The student submitting the application will be considered the team lead and the main point of contact for anything application-related.

- An **individual graduate student** with **at least two inventions with tested prototypes**. Graduate students should choose a primary invention from their portfolio and apply to the prize category that best fits their primary invention. Their second and any additional (if applicable) inventions do not need to be in the same

category as the primary invention. There is no graduate student team prize.

Patents are encouraged but not required. Additionally, applicants should be able to outline examples of their involvement in youth mentoring and outreach activities, and are asked to consider environmental sustainability as a factor in their inventive work. For additional information on sustainability-focused inventing, we encourage applicants to review these helpful toolkits.

2021 Lemelson-MIT Student Prize winners are required to attend EurekaFest in mid-to-late June 2021 (dates TBD). For undergraduate team winners, at least one team member must attend. Attendance at EurekaFest is at the Lemelson-MIT Program's expense. EurekaFest is a unique, inspiring opportunity for winners to interact with one another and the Lemelson-MIT high school InvenTeams.

If you are unsure about which category to apply to or have questions about your eligibility, please contact Janell Ciemiecki, Awards Program Administrator, at janellc@mit.edu.

<h1 style="text-align:center">Detailed Instructions for the 2021 Lemelson-MIT Student Prize</h1>
<h2 style="text-align:center">Initial Application Deadline: September 25, 2020</h2>

To learn more and to start your application, visit: http://lemelson.mit.edu/studentprize

Selection Process and Key Dates

The 2021 Lemelson-MIT Student Prize features a two-part online application process, the Initial Application and the Category Application, using the SurveyMonkey Apply applicant portal. All applicants need to create a SurveyMonkey Apply account by clicking the "Apply Now" button on the Student Prize website. Repeat applicants do not need to create a new SurveyMonkey Apply account and can login to the account that they previously created on the platform.

Applicants will be judged on the overall inventiveness of their work, the potential for commercialization/adoption of the invention(s), the systems and design thinking approach applied to the development of the invention(s), youth mentoring and leadership experience, and faculty recommendations. Category-specific screening committees review applications to select finalists and a prestigious national jury selects winners. Details appear below:

Initial Application Deadline: Friday, September 25, 2020 at 11:59pm ET

The Initial Application is a rolling application with a final deadline of **September 25, 2020**. If applicants meet all eligibility and Initial Application criteria, they will be invited to submit the Category Application within two weeks of submitting the Initial Application. Applicants are encouraged to submit materials BEFORE the September deadline, as doing so will facilitate an early review of materials AND grant earlier access to the Category Application if eligibility requirements and criteria are met, thereby giving more time to complete the Category Application.

Category Application Deadline: Friday, October 16, 2020 at 11:59pm ET

All eligible applicants who meet the Initial Application criteria will be invited via email to complete the Category Application. All Category Application materials, including the faculty recommendation letter, must be received no later than **October 16, 2020**.

Finalist Round and Announcement of Winners

A small number of graduate and undergraduate team applicants will be notified by **December 17, 2020** if they are advanced as finalists in each category. If selected as a finalist, applicants are required to submit additional materials due by **January 13, 2021**. See Application Guidelines for Finalists on page 7. Winners will be notified in late February 2021 and a public announcement will occur in late April 2021. Awards will be

made at EurekaFest, held in mid-to-late June 2021 (winners are required to attend; for undergraduate teams, at least one team member must attend). Attendance at EurekaFest is at the Lemelson-MIT Program's expense.

Note: the dates listed above and on the following pages are subject to change

Application Guidelines
As a courtesy to the distinguished individuals who volunteer their time to help make the Student Prize possible, we ask that you strictly observe all of the guidelines for submission. Please note, applications that do not follow instructions will be disqualified from consideration. Thank you in advance for your cooperation.

Once a SurveyMonkey Apply account is created, applicants must complete the **Initial Application** online by **Friday, September 25, 2020 at 11:59pm ET.**

Initial Application requirements include:
- ☐ Indicate the **Prize Type** (Undergraduate Team or Individual Graduate Student) and **Category** ("Cure it!," "Eat it!," "Move it!" or "Use it!")
- ☐ **Biographical Information and Team Member Listing** (undergraduates)
- ☐ **Invention Description(s)** in non-technical terms (must have a tested prototype)
- ☐ **Resume or CV** (PDF upload)
- ☐ **Slide Deck Presentation** (5-slide PowerPoint or PDF presentation upload about the invention(s), which must include visual evidence of a tested prototype. Photos are preferred, but if you embed a video, please also provide a fully written out link to it on the slides)

All eligible applicants who meet the Initial Application criteria will be invited via email to complete the **Category Application**, which is due by **Friday, October 16, 2020 at 11:59pm ET.** Applications will be evaluated on both your Initial Application materials and the Category Application materials. You may make any updates to your Initial Application materials prior to submitting the Category Application.

Note: the character counts below refer to the maximum allotment for that section's text box response in SurveyMonkey Apply. Word counts given are an approximation.

Category Application requirements include:
- ☐ **Faculty Letter of Recommendation**
  One letter of recommendation is required from a faculty member, research-scientist staff, or advisor/mentor who is familiar with your work. Letters must be requested via the SurveyMonkey Apply applicant portal, which triggers an email request to your letter writer with a unique link for them to upload the letter to your application. We HIGHLY recommend that you request this letter as early as

possible. Once requested, follow up with your letter writer to ensure that they received the SurveyMonkey Apply email (note that these emails can sometimes go to spam). Each letter should be addressed to the Lemelson-MIT Student Prize Committee, limited to two pages or less, and include the following:

- o Describe the student/team members
- o State the student's/students' role in developing the invention(s)
- o Describe the significance of the invention(s) to the field
- o Define the state-of-the-art status in the area of the invention(s)
- o Describe the potential implications of the student's/students' work

☐ **Cover Letter** (maximum 9,000 characters/approx. 1,500 words for undergraduate teams and 6,000 characters/approx. 1,000 words for individual graduate students)
Provide the reader with a brief snapshot about who you are and your main focus and inspiration as an inventor or team of inventors. Be sure to include details about your background, including education and any relevant job experience. Undergraduate students, please include background details for each inventor on the team.

☐ **Description of Inventiveness** (single invention for undergraduate teams – maximum 6,000 characters/approx. 1,000 words; portfolio of two or more inventions for individual graduate students – maximum 12,000 characters/approx. 2,000 words)
Address all of the following as it relates to your invention(s). Graduate students, address these aspects with a focus on your primary invention but also include details about your secondary invention (and any additional inventions, if applicable).

- o Define the problem or need that your invention(s) is/are trying to solve and explain how your invention(s) offer(s) solutions.
  - ▪ How did the problem come to the inventor's/inventors' attention?
  - ▪ How did the inventor/inventors decide that this was an important problem to solve?
  - ▪ What solutions were attempted to solve the problem and how were they developed and tested?
- o What makes your invention(s) novel?
- o What makes your invention(s) useful?
- o How does/do your invention(s) improve upon prior technology or processes?
- o What were the roles and responsibilities of each inventor with regard to the invention(s)? If you have worked in team environments, specify your individual role(s) in developing the invention(s): for graduate students working in a large lab or as part of a team, outline your *individual* contributions to developing your inventions; for undergraduate teams,

identify the roles and responsibilities of each team member in regard to the invention.

☐ **Description of Potential Commercialization or Adoption** (maximum 3,000 characters/approx. 500 words)
Describe how your invention(s) could be commercialized or possesses the potential for adoption, including any steps that you have taken to achieve this or plan to take in the future. Graduate students, address these aspects with a focus on your primary invention but also include details about your secondary invention.

☐ **Description of Systems & Design Thinking** (maximum 1,800 characters/about 300 words for undergraduate teams and 3,000 characters/approx. 500 words for individual graduate students)
A *systems thinking* approach means viewing your invention(s) as a collection of separate parts and processes that make up a larger system or whole. This includes the design, materials sourcing, manufacturing/building, and end-of-life of your invention(s), and the decisions that informed each phase.
Design thinking is a multi-step process for innovating that generally involves understanding a need, defining a solution, prototyping and testing, and refining or iterating your solution.
As appropriate, provide a description of both your systems and design thinking related to your invention(s), including any economic, social/community, and environmental impacts resulting from the invention's/inventions' development and its use. Graduate students, address these aspects with a focus on your primary invention but also include details about your secondary invention.

For additional information on sustainability-focused inventing, we encourage you to review these helpful toolkits.

☐ **Description of Youth Mentoring and Leadership Experience** (maximum 3,000 characters/approx. 500 words)
Describe your/your team's youth mentoring and leadership experience, addressing the following:
- How have you mentored youth or others?
- How have you served as a leader or leaders?
- What was the impetus for your involvement in these activities and what did you learn?
- Be sure to touch on any community outreach activities, academic and co-curricular.
- For graduate students, any activities that go above and beyond mentoring and advising undergraduates/lab members that would generally be

expected as part of the graduate student experience should be highlighted.
- o For undergraduate teams, please list individual youth mentoring and leadership examples for each team member. If applicable, you may also list examples of youth mentoring and leadership that you have conducted together as a team.

Optional – up to two supplemental documents/media uploads are permitted. While not required, if you have additional materials that would strengthen your application, we encourage you to include them. These materials could include PDF's of articles or news coverage, a list of links to other sources, photos, diagrams, videos, YouTube links, or even additional letters of recommendation.

Application Guidelines for Finalists
A small number of graduate and undergraduate team applicants will be notified by **December 17, 2020** if they are advanced as finalists in each category. If selected as a finalist, applicants are required to submit the following materials by **Wednesday, January 13, 2021 at 11:59pm ET:**
- **Two additional letters of recommendation**
- Produce a **two-minute video** about your invention (primary invention for graduate students)
- **Headshot or team photo**
- *Optional: Up to three supplemental documents/media uploads are permitted in addition to the two-minute video and headshot/team photo*

The two-minute video must describe your invention and adhere to the content guidelines set forth by the Lemelson-MIT Program. Creativity is encouraged! DO NOT USE ANY COPYRIGHTED MATERIALS (music, images, video, etc.) without the explicit written permission for use from the copyright holder. Detailed Finalist Application instructions will be sent to all finalists in December if advanced. Finalists may make any edits to their Initial Application and Category Application materials prior to submitting the Finalist Application.

For those applicants who are selected as Student Prize winners, some (non-confidential) information presented in their applications will be used to prepare public press materials.

Contact: Janell Ciemiecki, Awards Program Administrator, Lemelson-MIT Program
Email: janellc@mit.edu

2021 Lemelson-MIT Student Prize: Frequently Asked Questions
Initial Application Deadline: September 25, 2020

To learn more and to start your application, visit: http://lemelson.mit.edu/studentprize

What are the goals of the Lemelson-MIT Student Prize?
The Lemelson-MIT Student Prize seeks to serve as a catalyst for burgeoning inventors. Prizes are awarded annually to inventive graduate students and teams of undergraduate students from any college or university in the United States. The award publicity helps to expose winners to technology, engineering, science, business, and investment communities.

What qualifies as an invention for the purposes of this competition?
The Lemelson-MIT Program considers an invention to be a new technology, product, or process developed by the student applicant that is unique, useful, and solves a real-world problem with an identified user. Strong applications have evidence (data) supporting that the invention works as intended to, including engagement with users during the evaluation of the invention. Software-only projects such as apps or data analysis tools typically are not eligible for this competition. Any inventions submitted should essentially have the potential to be patented. If you have questions about whether your invention qualifies, please contact Janell Ciemiecki, Awards Program Administrator, at janellc@mit.edu.

What is a tested prototype?
A prototype must be tested and functional. It should work as designed beyond proof of concept models. Evidence of the functional prototype can be data from lab, human subjects testing or consumer products testing that has been collected and analyzed. Applicants need to provide evidence that the functional prototype performs as intended.

Prototypes do not need to be commercially available but they should be commercially viable. Applicants are not expected to develop prototypes past early stages nor do they need to present a business plan. Commercialization potential is however a criterion of the competition, and prototypes further along in development that exhibit strong commercialization potential may be rated higher than early stage inventions.

What does it mean to be "an undergraduate team that is founded and led by an undergraduate student?"
An undergraduate team that is student-founded and student-led is one in which the idea for the invention was generated by an undergraduate student who then built and is actively leading a team of 2-5 students (majority of whom are undergraduates) to further develop the invention. Graduate students can be part of the undergraduate team, provided the majority of team members are undergraduates. The student submitting the team's application will be considered the team lead and the main point of contact for anything application-related.

Are applicants required to have any patents?
No, applicants are not required to have any patents. However, the Lemelson-MIT

Program strongly encourages applicants to discuss in their application any intellectual property (IP) that they have filed or plan to file and correctly attribute ownership (i.e. candidates should own the IP of any invention entered into the competition). The supplemental materials section is an excellent place to submit patent abstracts. The strongest applications over the years have featured patented inventions or inventions involved in the patenting process.

Does the candidate forfeit intellectual property rights by submitting an application?
The Lemelson-MIT Program asks screening committees and the judging panel to acknowledge that student applications are distributed solely for the candidacy of the Lemelson-MIT Student Prize, and should not be reproduced for other purposes. Candidates are advised to consult their school's Intellectual Property policies as directed by their Technology Licensing Office, and the United States Patent and Trademark Office to ensure protection of their intellectual property, if applicable.

Are winners required to use the award money for research?
No, the money is an unrestricted cash gift but could certainly be used for future research or development of their prototype(s).

What is required of winners?
Winners are asked to participate in media opportunities arranged by the Lemelson-MIT Program to celebrate their win and recognize their work. Winners are required to attend EurekaFest, the Lemelson-MIT Program's annual multi-day celebration of the inventive spirit, which is held in June of the award year. Undergraduate team winners must have at least one team member in attendance. Attendance at EurekaFest is at the Lemelson-MIT Program's expense. The Lemelson-MIT Program may request winners to participate in future public education and press activities as applicable.

When is the deadline to apply?
The Initial Application deadline is Friday, September 25, 2020. Applicants can apply any time before that date and are encouraged to do so, as it will enable earlier access to the Category Application if all criteria are met. The Category Application deadline is Friday, October 16, 2020. For those who are advanced to the Finalist round, the Finalist Application materials are due on Wednesday, January 13, 2021. *See page 3 for detailed deadline information.*

Who are the judges?
All applicants who meet the Initial Application requirements will be advanced to the Category Application round. Following that, there is a two-tiered judging process:
Category Application round: Screening committees who have expertise in the candidates' field areas (i.e. the Student Prize categories: healthcare, food/water and agriculture, transportation and mobility, and consumer devices and products).
Finalist round: A national jury consisting of a panel of experts from a variety of disciplines such as mechanical engineering, bioengineering, physics, medicine, finance, transportation and mobility, and food/water and agriculture.

What criteria are used to judge the candidates?
Applicants will be evaluated by category-specific screening committees and a prestigious national jury based on a range of criteria including:

- ☐ Description of inventiveness (single invention for undergraduate teams and portfolio of inventions for graduate students)
- ☐ Potential or realized commercialization/adoption of the invention(s)
- ☐ Ability to articulate a systems and design thinking approach to the invention process
- ☐ Scope of youth mentoring and leadership experience
- ☐ Supporting letter of recommendation
- ☐ *Finalists only: two-minute finalist video and two additional letters of recommendation*

No criterion is considered paramount. Judges are asked to take a holistic view of each candidate with respect to the goals of the Lemelson-MIT Student Prize.

What makes an excellent application?
An excellent application is well-presented, complete, and follows instructions. Strong applications feature truly inventive technology and make a compelling case based on the selection criteria listed above. For specific advice on how best to complete your application and clearly communicate about your invention(s), we encourage you to set up a phone call with Janell Ciemiecki, Awards Program Administrator, at janellc@mit.edu to discuss your application in detail prior to applying.

How many Student Prizes are awarded each year?
There will be up to a total of eight prizes awarded in 2021:

- ☐ "Cure it!" category: one $15,000 prize for one graduate student, and one $10,000 prize for a team of undergraduate students.
- ☐ "Eat it!" category: one $15,000 prize for one graduate student, and one $10,000 prize for a team of undergraduate students.
- ☐ "Move it!" category: one $15,000 prize for one graduate student, and one $10,000 prize for a team of undergraduate students.
- ☐ "Use it!" category: one $15,000 prize for one graduate student, and one $10,000 prize for a team of undergraduate students.

I would like to apply but my project does not fit into any of this year's categories. What can I do?
The Lemelson-MIT Program may award prizes in additional categories in future years. For now, applicants must choose one of the four current categories: "Cure it!," "Eat it!," "Move it!" or "Use it!" For graduate students, at least your primary invention must fit into one of the four prize categories. If you are unsure if your invention fits into one of the categories, contact Janell Ciemiecki, Awards Program Administrator, at janellc@mit.edu.

Is the prize given to college students with proposed work/inventions?
No, this is not an idea competition or funding pitch for yet-to-be-developed projects.

Submissions must be existing tech-based inventions with tested and working prototypes, having potential for real commercialization, implementation or greater impact.

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Email: janellc@mit.edu