Innovation Challenge

Student Innovation Center — Spring 2025

CALL FOR INNOVATORS

The Innovation Challenge is an open competition hosted by the Student Innovation Center for **undergraduate** students from all majors and colleges interested in developing ideas that can positively impact our collective futures. This year, the Innovation Challenge Competition has two major themes:

- **Sustainable Development** to create peace and prosperity for people and the planet

- **Applied Artificial Intelligence** to develop impactful applications of AI technologies for specific use cases and to address community needs

Students will work in **interdisciplinary teams** to develop projects that address these themes in personally meaningful ways and can address local or global aspects of the challenges. Winning teams will receive funding and support through the Innovation Challenge Incubator in the upcoming academic year to continue to develop their idea into a viable venture!

HOW TO PARTICIPATE

The Innovation Challenge invites you on a creative journey to create excellent solutions to interesting problems. The challenge includes a series of **Innovation Workshops** designed to spark your imagination, foster teamwork, and guide the development of compelling project proposals.

Following these workshops, teams will prepare **Application Submissions** including a project proposal and a 90-second video pitch. Upon review, finalist teams will be announced and proceed to refine their presentation skills through a dedicated workshop, leading up to their final presentations.

Your hard work culminates in the **Finalist Presentations** where finalist teams present their innovative solutions to a global panel of judges, with the victors celebrated at the IGNITE Awards Ceremony. Winning teams will be awarded admission to the Innovation Challenge Incubator and funding to continue working on their project.

Stage	Description	Dates
Innovation Workshops	A series of workshops, including: *Idea Jam, Start Something ... Applied AI Challenge, and Innovation Challenge Competition: Application Workshop*, designed to equip participants with essential innovation skills and prepare for the competition.	See [Programs and Events](#) for available sessions.
Application Submission	Teams prepare and submit their project proposal, a 90-second video pitch, and an optional pitch slideshow. Submissions are reviewed by a panel of judges.	**Monday, April 7 -** ***Deadline***
Finalists Announcement	Teams selected as finalists are announced, and preparation for final competition presentations begins.	Monday, April 14
Finalists Presentation Workshop	A workshop for finalists to refine their presentation skills in preparation for the final showcase.	Week of April 21-25

Finalist Presentations	Finalists present their innovative solutions to a panel of judges. The event showcases the culmination of participants' hard work and creativity.	Wednesday, May 7
IGNITE AWARDS Ceremony	Celebrates the winning teams, who are awarded admission to the Innovation Challenge Incubator and funding to continue working on their project.	Thursday, May 8
Next Academic Year	Winning teams will be invited to join our Innovation Incubator program and spend the year developing their innovation ideas into user tested solutions with the support of developmental funds.	

COMPETITION THEMES

Sustainable Development

The Sustainable Development Goals (SDGs) challenge enables innovators to apply their expertise across a spectrum of disciplines based on the United Nations' 17 SDGs, which provide a comprehensive framework for sustainable development efforts worldwide. As a team, you will explore a variety of solutions, whether you aim to make a difference in your own community or contribute to broader, international objectives. By focusing on personally meaningful ideas, you will advance global sustainability and be inspired to take action that resonates on a personal level. Combined, these ideas drive diverse projects that collectively contribute to a more sustainable, equitable, and prosperous future for all.

1. **No Poverty**: End poverty in all its forms everywhere.
2. **Zero Hunger**: Achieve food security, improve nutrition, and promote sustainable agriculture.
3. **Good Health and Well-Being**: Ensure healthy lives and promote well-being for all ages.
4. **Quality Education**: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
5. **Gender Equality**: Achieve gender equality and empower all women and girls.

6. **Clean Water and Sanitation**: Ensure availability and sustainable management of water and sanitation for all.
7. **Affordable and Clean Energy**: Ensure access to affordable, reliable, sustainable, and modern energy for all.
8. **Decent Work and Economic Growth**: Promote inclusive, sustainable economic growth, full and productive employment, and decent work for all.
9. **Industry, Innovation, and Infrastructure**: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.
10. **Reduced Inequalities**: Reduce inequality within and among countries.
11. **Sustainable Cities and Communities**: Make cities and human settlements inclusive, safe, resilient, and sustainable.
12. **Responsible Consumption and Production**: Ensure sustainable consumption and production patterns.
13. **Climate Action**: Take urgent action to combat climate change and its impacts.
14. **Life Below Water**: Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.
15. **Life on Land**: Protect, restore, and promote sustainable use of terrestrial ecosystems, manage forests sustainably, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
16. **Peace, Justice, and Strong Institutions**: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.
17. **Partnerships for the Goals**: Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Special Focus Area: Energy Storage for Sustainable Development
Within the SDG framework, we particularly encourage innovations in energy storage solutions that support Goal 7 (Affordable and Clean Energy) and Goal 13 (Climate Action). Energy storage technologies are crucial enablers of sustainable development, supporting the transition to renewable energy and decarbonized electricity systems worldwide. Teams focusing on energy storage may address the following strategic challenge areas.

Technology Innovation:
- Redox flow batteries for scalable, long-duration storage
- Thermal energy systems for efficient renewable integration
- Metal-air batteries using sustainable materials
- Mechanical storage applications for renewable systems

Economic & Social Impact:
- Make clean energy more accessible in developing economies
- Balance energy costs with environmental benefits
- Incentivize consumer participation in demand management
- Address the transition from fossil fuels to renewable energy

System Integration:
- Support the achievement of zero or net-zero emissions goals
- Enable reliable renewable energy deployment
- Enhance grid resilience and stability
- Facilitate energy access in remote communities

EVALUATION CRITERIA

The Innovation Challenge promotes early-stage innovation as opposed to a business start-up and commercialization. Ideally, funded projects will result in a "minimum viable prototype" (MVP/MVX) for a product, service, or program. Award winners will go on to demonstrate the feasibility of their potential solutions and have a full year to test and validate their potential solutions through their involvement in the Innovation Challenge Incubator.

As you prepare your submission, make sure to clearly cover these five key areas: problem, solution, social impact, development plan, and team. Our judges will assess these criteria to select Innovation Challenge finalists and competition winners. We're excited to see how your project stands out and makes a difference!

1. **Problem**: What problem are you solving, and how does it relate to the *competition themes*?
2. **Solution**: How does your solution work? What makes it innovative?
3. **Social Impact**: How will your solution make a meaningful, positive difference in the world?
4. **Development Plan**: What are your next steps to develop your solution and create a minimum viable prototype or experience (MVP/MVX)?
5. **Team**: What skills does your team have to make this project a success?

INCENTIVES AND ELIGIBILITY

The Innovation Challenge is supported by the **Student Innovation Fund** with generous support from David and Christine Slump and by the **Energy Storage Solution Fund** with generous support from Charles Saleh. These funds offer early-stage seed funding for teams through the Innovation Challenge Incubator during the following academic year and support progress from ideation to design and further development of a potential solution referred to as a "minimum viable prototype" (MVP/MVX) for a product, service, or program.

Incentives for Participants

- **Development Funds**: A limited number of winning teams will be selected at the discretion of the competition judges to receive a $3000-$5000 share of the annual $15,000 in development funds available from the *Student Innovation Fund* and the *Energy Storage Solution Fund*. Winning teams can use these funds to develop and prototype their innovative solutions through the Innovation Challenge Incubator in the coming academic year.
- **Scholarship Awards**: Each member of the winning teams will also receive a scholarship award of $500 ($250 each semester) to support their participation in our development program in the coming academic year.

Eligibility Criteria

Student Eligibility
Team members be undergraduate students currently registered at Iowa State University (full-time or part-time status)

Team Requirements
- **Size**: 2-5 members per team
- **Interdisciplinary**: Must include students from at least 2 different Iowa State colleges
- **Continuing member**: At least 1 member must be non-graduating and agree to continue the project into next year and recruit new team members as needed

Innovation Challenge Incubator

In the academic year following their competition, winning teams will receive support and mentorship as they use their development funds to help facilitate progress on their project.

- **Project Plan and Budget**. After selection, winning teams will propose a budget for allowable expenditures. A project management plan will also be required for further development with funding allocation.
- **Allowable Use of Funds**. Project funding may be used for travel, market research, samples, parts, equipment, or supplies. Funding requests must be submitted and approved through Iowa State licensed vendors. Funding may not be used for clothing, food, beverages, or student and/or faculty stipends.
- **Mentorship and Support.** Winning teams will meet with Student Innovation Center leadership and mentors at least 3 times a year for project review and advice. Teams should meet continuously as an entire group and progress according to their project management plan throughout the year.
- **IGNITE Presentation**. Winning teams will present their year-long progress at the following year's IGNITE showcase.

RESOURCES

To support your journey in the Innovation Challenge, we've compiled a comprehensive list of resources categorized to assist you from ideation through execution. These resources span a variety of formats, including educational courses, inspirational talks, and practical tools for project development and innovation strategy.

Inspiration and Ideation

- **TED Talks on Innovation**: Engaging talks by innovators offering insights into creativity and problem-solving.
- **Fast Company: Innovation by Design**: Showcases how companies are solving problems creatively.

Design Thinking and Creativity

- **Design Kit**: IDEO's resource for human-centered design.

- **Stanford d.school: Virtual Crash Course in Design Thinking**: Introduction to design thinking.
- **IDEO U: Creative Leadership**: Courses on fostering a culture of creativity and innovation.
- **Google's Design Sprint Kit**: Guide to conducting design sprints for rapid problem-solving.

Project Development and Execution

- **MindTools: Project Management Techniques**: Techniques for effective project management.
- **Instructables**: DIY projects for inspiration and prototype ideas.
- **Value Proposition Canvas - Strategyzer**: Tool for creating compelling value propositions.
- **Business Model Canvas - Strategyzer**: Template for developing new or documenting existing business models.

Entrepreneurship and Business Strategy

- **Coursera: Innovation & Entrepreneurship Courses**: Courses on innovation and entrepreneurship from leading institutions.
- **Harvard Business Review: Innovation**: Articles and case studies on fostering an innovative culture.

Pitching and Presentations

- **The Only 10 Slides You Need in Your Pitch - Guy Kawasaki**: Guy Kawasaki's essential guide to creating a compelling pitch presentation.

CONTACTS

Abram Anders, adanders@iastate.edu
Tera Lawson, tjlawson@iastate.edu
Rebecca Nation, rgnation@iastate.edu