



Indian Society for
Technical Education



STUDENTS' CONVENTION

2022-2023



Organised by

National Institute
of Technology,
Hamirpur



REINVENTING INDIA THROUGH
Sustainable Development



About NIT-H

The National Institute of Technology, Hamirpur is one of the country's thirty NITs, founded on the 7th of August 1986 as the Regional Engineering College as a joint and cooperative venture of the Governments of India and Himachal Pradesh. It has placed a great emphasis on a range of technological and cultural events over the years, with an emphasis on the students' entire development. Students at NIT Hamirpur are keen to use their invention and application abilities to make the world a better place. With research papers in SCI, SCIE, and Scopus, to cite a few, the institute has added 20+ patents to its record of successes in widespread domains. At NIT Hamirpur, learning and enjoyment go hand in hand. The perilous path of discovery has led us all to a place brimming with possibilities. According to the Today-MDRA Best Engineering (Government) Colleges ranking 2021, NIT-H has been giving potential outcomes for students to demonstrate their talents, resulting in NIT-H being ranked under 20 in India.

About ISTE

The Indian Society for Technical Education is a nationwide, professional, non-profit organization that was founded in 1968 at IIT Delhi with the mission of forming bonds amongst students and faculty from other universities and assessing their skills and abilities. It is a national executive council with over 5 lakh student members in over 2345 technical education institutions, including NITs, IITs, and other notable institutions.

The Students' Chapter of ISTE at NIT Hamirpur is dedicated to fostering such a technical culture. It brings students from all walks of life together to nurture, improve, develop, and showcase their talents on a national level. To fulfill the growing demand for innovative professionals, ISTE is working to promote competent ideas and standards.

ISTE NITH conducts events such as Prodyogiki, a competition for budding entrepreneurs, and Hult Prize, which aims to promote technical and social abilities among technophiles. It has been actively involved in social outreach through its Pahal campaign.

In the year 2021, ISTE NITH collaborated with various ISTE chapters to conduct a national level hackathon Hack The Crisis along with a virtual scipher hunt and various talks by eminent personalities.



About Convention

The automated world saw a substantial transformation in this epidemic. The National Institute of Technology, Hamirpur, and the Indian Society for Technical Education is privileged to host the students' convention, which will allow young minds to share their thoughts on how modern engineering, with the aid of sustainable technology, can help in revolutionising the current challenges and help in the overall advancement of the nation.

It aims to bring together students with varied interests to propound their ideas to actualize individuals' aspirations. With a profusion of events and guest lectures, a collaboration is anticipated to unravel the mystery behind technological minds.

TIMELINE



Reinventing India through Sustainable Development



A collection of interconnected global goals has been created as a "blueprint for achieving a better and more sustainable future for everybody." Even though the goals are broad and interrelated, precise targets have been set, as well as indicators that will be used to track progress towards each goal. The year by which most of the goals are supposed to be met is sometime within this decade.

For an ever-growing nation like ours, the strain on the country's resources is constant. With India setting its foot into the world's economy, culture, and technology, we have marked our name as one of the leading developing nations. India's rapid and chaotic expansion creates substantial hurdles that must be overcome promptly for coming generations to maintain and improve the current pace of development. The contemporary world provides us with many resources in the form of technology and sustainable development goals. These need to be utilised by our brilliant minds to shape a new India that is stronger and better prepared for the future.

The tools of sustainable development—economic instruments, legislative measures, and consumer pressures aimed at achieving technological changes such as recycling, waste minimization, changed production processes, pollution control, and more efficient usage of resources. The Students' Convention accommodate students with a national level platform to work for sustainable development goals to devise solutions to meet the current needs without compromising on the needs of the future.

EVENT DETAILS

- *Kalpana -Ideas for a better tomorrow*

A technology-based event aimed at encouraging young technocrats to come up with sustainable development concepts that would aid in the promotion of Make in India. Teams will be asked to provide a presentation and screenshots of their concepts, and their contributions will be auditable independently.

- *Poster presentation*

A research-based event in which participants will be assigned different sub-themes, and required to present them on a poster prior to answering questions from the audience. There would be an oral presentation, and participants might use a variety of additional creative approaches to construct and communicate their study on a poster.

- *Interactive Events:*

A series of events with the common goal of engaging and attracting individuals from various fields of interest. A plethora of events are planned to carry out learning and enjoyment go hand in hand.

- *Guest lectures*

Proficient scholars will be invited to share their knowledge and skills on subjects of national significance which would revolve around technology, sustainability, and education. Their discourse will elicit a new surge of passion and zeal for a variety of topics that will simultaneously affect technology and the environment.



KALPANA - IDEAS FOR A BETTER TOMORROW

“Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” - Gro Harlem Brundtland.

ISTE is proud to announce the national level flagship event - **Kalpana** – where ideas speak in the wake of the huge success of the emerging startup culture in India. This is an innovative, intense, brainstorming event that encourages new and modern ideas to solve real-life issues by providing a platform to shape the future with true potential and creativity. Participants have to come up with sustainable development concepts that would aid in the promotion of Make in India. Teams are expected to provide presentations and screengrabs of their concepts, and their contributions will be auditable independently.

Problem Statement:

In India, there are significant disparities in access and opportunity among different groups of people. Access to services and opportunities is extremely limited in the distant interior regions of backward areas. The state also has a significant rural-urban split. While opportunities and services are more readily available in metropolitan regions, rural communities face severe disadvantages. Some sectors, such as market linkage and current information and communication technologies, are completely excluded from any services. As a result, the disparities between the haves and the have-nots are expanding. The state must take quick action to rectify this growing disparity and pursue an inclusive development program.

Sustainable development can be defined as *“development that meets the needs of the present without compromising the ability of future generations to meet their own needs”*. Achieving economic development is crucial for any country. But is it worth it if it comes at the cost of environmental degradation? In India, factors like rapid growth of population, urbanization, industrialization, and poverty, among others are responsible for harming the environment. Whenever our educational institutions, corporations, and governments ignore sustainability, they aren't just avoiding the issue, but in fact, making a political decision to practice an implausible condition for our environment. While the cooperation of every citizen of the country is essential for safeguarding the environment, governments have a huge role to play in helping find solutions to the problems. The Sustainable Development Goals (SDGs) are, thus, part and parcel of the country's long-standing tradition and heritage. “Much of India's development agenda is mirrored in the Sustainable Development Goals. Our national plans are ambitious and purposeful. Sustainable development of one-sixth of humanity will be of great consequence to the world and our beautiful planet.”. There may never be a greater venue for participants to share their thoughts and breathe new life into the community.

Challenges

- **Water**

Currently, billions of people lack access to adequate drinking water, sanitation, and hygiene, resulting in severe diseases and complications that could have been avoided. Our oceans are suffering as a result of how we treat our planet, and dead zones are spreading even though we know how vital the oceans are to us as humans and the entire ecosystem.

- **Partnership**

Every democratic society requires compassion and a strong moral compass. Looking across the world, it appears like progress is headed in the wrong way. Institutions are in danger in many locations, people are subjected to violence, organized crime thrives, child abuse is rampant, and uneven access to justice is frequent. Creating global connections is more important than ever for the planet and for us as individuals.

With Covid-19 still wreaking havoc on the planet, we must pitch in to help India, share information, and provide and share access to technology, research, and innovation. All of this is necessary in order to effect change and discover answers to the difficulties we face.

- **Environment**

Global warming and extreme weather are often in the headlines, and these frightening climatic changes are indisputably the result of human activity. We can all see that the alarming changes in our climate are growing much too quickly, regardless of where we live on the planet.

The seas are at the heart of global systems that keep the globe habitable for people, yet they are still deteriorating, posing a threat to ecosystems and species. Life underwater, as life on earth, is suffering.

- **Health**

Ensuring healthy lifestyles and encouraging well-being for people of all ages is critical to the planet's long-term development, and it is also a human right, according to the United Nations. This is not, however, something that all people on the planet can take for granted. Not everyone can be certain that they will have access to even the most basic necessities, such as food, and more people are suffering from severe hunger than ever before. Hunger-stricken people all around India are in desperate need of a change right now.

- **Human rights**

All humankind on this planet has inherent rights. We should all have the same rights to life as humans, including the right to food, education, employment, health, and liberty. This isn't true for everyone, though. Unfortunately, there are a wide range of inequities that have harmful consequences for individuals, society, and India.



- **Sustainable Society**

Over half of India's population lives in cities, and this percentage is anticipated to grow in the coming years. Cities contribute to economic growth and advancement on the one hand, but they are also responsible for leaving terrible footprints on our planet on the other.

While technology and innovation are at the forefront of discovering viable strategies for our nation, the digital gap continues to widen. It is still true that many individuals in our nation do not have access to the Internet at a reasonable cost. Furthermore, not everyone has access to economic development and excellent work. Many people are suffering as a result of our consumption and production, which is leaving many others behind, and our future depends on a change.

- **Education**

Education is not only a necessary component of personal achievement, but it is also the foundation on which we may build a better future for our world. Even so, some people lack access to basic education, such as reading and writing. Many children, particularly girls, are excluded from school or are not permitted to attend. Children and teens who do not have access to education suffer negative consequences on an individual and socioeconomic level. Gender equality, coupled with the lack of discrimination based on religion, sexual orientation, political views, race, age, and background, is a fundamental basis for a peaceful, wealthy, and sustainable world.

How it works?

- Round 1:
The participants will be required to submit their presentations through Dare2Compete. This will be a qualifying round.
- Round 2:
Teams that make it to the final round will be given up to ten minutes to present their finished project to a panel of judges.

Rules:

General Rules:

- The competition will be held on **Dare2Compete**.
- No registration fee shall be charged.
- This event shall be conducted from [xx/04/2022](#) to [yy/04/2022](#).

- The teams will have 15 days prior to completing a detailed solution of the challenges.
- The final submission of the presentation shall be on [xy/04/2022](#).
- This event shall be open for all college students.
- The participants can register in **groups of up to 4**.
- In case of any tie, the content of the presentation matters.
- Any participant found to be indulged in any form of malpractice will be disqualified.
- The organizers reserve the right to change any or all the above rules as they deem fit.
- In case any dispute arises, the final decision will be in the hands of organizers and binding to all.
- Any updates or changes made in the event will be notified to the participants via their registered emails.

About the Presentation:

- The presentation should satisfy at least one of the targets under the challenges.
- The fonts used in the presentation should be readable and professional.
- The language used should be **English** only.

Judgment Criteria:

- ❖ **Demo / Pitch-** Did the demo and the pitch appropriately complement the concept?
- ❖ **Impact-** How impactful is the solution in regards to solving the right problem, scalability, creativity, and disruptiveness?
- ❖ **Comprehensibility** – Comprehensibility of the solution proposal's value proposition and main use case
 - Is it easy to understand the solution?
 - Is it easy to understand how the solution works and how it will be implemented to solve the challenge?
 - How well detailed is the description of the solution?
 - Does it include an understanding of the key stakeholders and ecosystems that are relevant to the realization of the solution?
 - Will the end-users of the solution understand it too, or do they need special skills to take part in it or use it?
- ❖ **Realisability** – Realisability of the solution from its current idea stage to implemented solution, used by its intended users in its problem context
 - How realistic is the time plan?
 - Does the solution have access to all the needed data (if applicable)?
 - How well are potential risks calculated?
 - How soon can the solution be available to the intended users?
 - Is the technology mature enough (if applicable)?
 - Can a minimum viable product be created within 3 months?
 - Can a proof of concept be created within 6 months?



- **Innovativeness** – Innovativeness of the idea behind the solution, as well as the intended technology to be used in an implementation of the solution (if applicable).
 - In what way is this solution innovative?
 - Are there existing or similar solutions?
 - How does the solution differ from any existing solutions?

- **Scalability** – Scalability of the solution if it is implemented and realized.
 - How many are experiencing the problem that this solution is intended to solve (if applicable)?
 - How well does this solution scale?

- **Solving the SDGs** – Does this solution correlate to the United Nations' Sustainable Development Goals and how well does it solve the challenge it is intended to address.
 - How well does the solution correlate to the SDGs?
 - In what respect does the solution solve one or more of the SDGs?
 - How many in the solutions target audience would experience an improvement and how extensive would that improvement be?

- **Team** – Team structure, functionality, adaptability, and potential to scale a solution successfully
 - How well is the team suited to realize the solution?
 - Has the team reflected on any additional needs in the team structure to realize the solution?
 - Are the members of this team motivated to invest time and energy to realize this solution?

Prize Distribution:

The winners get to win cash prizes from a prize pool of INR 55000.

Winner: INR 25000

First Runner up: INR 18000

Second Runner up: INR 12000



Virtual Poster Presentation

ISTE-NITH presents you, a national-level poster presentation event, to offer a forum for teams from colleges around the country to assert their research skills and knowledge.

Participants must choose a topic from the below mentioned ones and deliver a formal, research-based presentation of their work at this event. Text, charts, graphs, and other visual aids should be used in the poster presentation to give a visual representation of your findings.

Registration ends - 25th March 2022 23:59

Date of Presentation- April 2022

Topics to choose from:

- Carbon Footprint
- Climate Change
- Green Economy and Technology
- Sustainable Education
- Applications of Mathematics in Engineering and Technology
- Health Literacy in the time of Pandemic
- Fighting World Hunger

About the Contest:-

- The competition will be held on **Dare2Compete**.
- No participation fee or prerequisites are required to participate.
- Participants will be given X topics to choose the one of their interest.
- This competition is open for all college students across the country.
- They should submit their presentation beforehand on the Dare2Compete Platform
- Participants will have a time limit of **5-7 minutes** to present their work with the help of the poster.
- Participants can form a team upto **four** people.
- The poster presentation and the evaluation will be done on the **4th of April**



General Rules:

The poster should be a clear visual depiction of the abstract you've provided, and it should meet the following mandates:

Title of the Poster

- It is recommended to keep the title of the poster the same as in the submitted abstract. Slight modification which does not change the idea of the abstract is also allowed.

Poster size and format

- Poster must be submitted in PDF format.
- Participants can make the poster in landscape or portrait mode.
- Dimensions of the poster should be 36x48 in inches (Height x Width).

Your Information

- The top of the Poster should display, in the lettering of 18 Bold (Times New Roman), the following information: Title of your Paper, Name(s) of the Author(s) and Affiliation(s).

Lettering

- Kindly use both UPPER and lower case letters for general content, as all-capital text is difficult to read.
- Make sure there is adequate contrast between the color of the text and the background of the poster.
- Text and presentation should be in ENGLISH only.

Content of the Poster

- Ensure that certain portions of the poster (such as the background, methods, findings, and conclusions) are widely obtainable.
- Try to keep the text short and easy to read. The poster should have a clear message, have a logical layout, and be easy to comprehend.
- Avoid the use of full sentences and rather use short text in bullet point format.
- Avoid using watermarks that may detract from the readability of your poster.

Illustrations

- The most significant aspect of the poster is the illustration, which will draw the most attention. The simplest to understand charts and graphs are those that are colorful. When feasible, explanatory pictures should be utilized instead of words.
- Your poster should only contain static images and no movies or animations.
- Try to make the most of the space on your poster to draw in the audience, and make sure the visuals are simple to interpret.

Judging Criteria

- Peculiarity:- The poster should be able to stand alone as a clear communication of the project even without the team present.
- Balance: The poster should be a balance of text, figures, and space. Excess text should be avoided - figures should play a dominant role in communicating the project on the poster.
- Quality of Graphics: The key concepts of the project should be diagrammatically represented. They should be able to successfully highlight the relevant data.
- Conciseness:- The content of the poster should be technically written.
- Innovation:- Originality of work, including new concepts and innovations will be appreciated
- Research Methodology:- The scientific content of the poster should be accurate. Models should be free of mathematical error. The poster reveals the STEM literacy of the team.
- The team should be able to answer in-depth questions pertaining to the topic presented by them.

Rewards:

- Prizes worth **INR 10,000/-**.
 - Winner - **INR 6,500/-**.
 - 1st runner up - **INR 2,500/-**.
 - 2nd runner up - **INR 1,000/-**.
- All the participants will get a certificate of participation.

Interactive Events

A series of events with the common goal of engaging and attracting individuals from various fields of interest. A plethora of events are planned to carry out learning and enjoyment to go hand in hand.

1. **Quiz:** A series of questions covering a wide range of domains such as sustainable development, technology, and engineering shall be conducted.

A few topics for reference are

- Energy-efficient appliances
- CO2 emissions
- Carbon footprint
- Sustainable tourism
- Sustainable agriculture
- Clean and efficient energy systems
- Disaster resilient infrastructure
- Planned eco-restoration

2. **Newsletter:** To spread awareness and information regarding the latest trends in the technology behind sustainable development and promote the various events to be organized as part of Convention '22, a weekly newsletter shall be released. This shall commence from mid-March.

Contents of the newsletter shall include the following

- Articles related to the main theme of the event. They will be taken from reputable and verified sources.
- A crossword puzzle to add a touch of creativity to the event and make it more engaging and informative. The clues of the crossword puzzle will also revolve around the concept of sustainability, technology, and various aspects of engineering. Cash Prizes worth up-to 1K will be awarded to the winners.
- A special column detailing the upcoming guest lectures shall be displayed.
- Winners of the previous crossword shall be displayed in the next edition

Rewards:

- Prizes worth **INR 2000/-**
- Quiz.
 - Winner- **INR 1,000/-**
 - 1st runner up - **INR 500/-**
- Crossword Puzzles.
 - Winner - **INR 500/-**.



BEST ISTE CHAPTER AWARD

“A dream does not become reality through magic, it takes sweat, determination and hard work.”

Success comes when small efforts coalesce and efforts when put in the right way lead to the accolade.

A token of appreciation will be given during the ISTE annual convention to the best ISTE Chapter in the various ISTE sections as judged by the respective Section Managing Committees. Adjudication will be done on the basis of below mentioned criteria:

- ❖ Total number and variety of activities.
- ❖ The relevance of activities to the members
- ❖ General leadership exhibited
- ❖ Resources generated locally
- ❖ Extension services rendered