

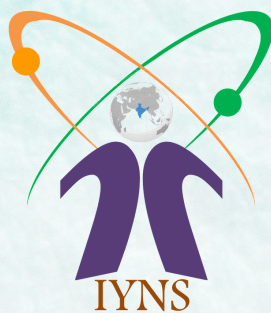


NUCLEAR NEWS

THE MONTHLY NEWSLETTER

NOVEMBER 2020

Indian Youth Nuclear Society (IYNS) is a non-profit organization with the aim to spread awareness about the benefits of nuclear energy among general public and to encourage our youth to learn and contribute to the nuclear energy program.



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FOREWORD

"Shiv Nadar School believes in creating progressive, value-oriented learning experiences for the students so that they grow up as well informed global citizens. Through Energy Boot camp we tried to expose our young minds to global issues like the Energy crisis, need of clean fuel and Climate change.

The month long event pointed out how the Scientists with their ongoing experiments and technology is helping to solve these problems. The students appreciated the cause of Global warming and its impact on our sustainability. The event was well planned with IYNS, keeping in mind the five ATL skills : Thinking, Social, Communication, Self-Management, and Research. Students from Urban and Rural areas were engaged fruitfully in value based projects, discussion with argument and counter argument .

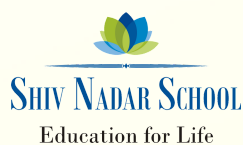
This engagement was a big success due to collaboration among all campuses ,Vidyagyan, Shiv Nadar Schools, Shiv Nadar University and IYNS. We sincerely thank TEAM IYNS for working days and nights selflessly with us.

Looking forward to many such collaborative events with IYNS."



*Mrs. Vinita Sharat
STEAM Co-ordinator,
Shiv Nadar School, Noida*

HIGHLIGHTS OF THIS MONTH



Energy Boot Camp October 6 - November 8, 2020

IYNS, in association with Shiv Nadar School, organized an Energy Boot Camp. The event had a stellar online launch on October 6, 2020 (<https://bit.ly/2JrPKB5>). During this event, the IYNS team was joined by Col. (Retd.) Gopal Karunakaran (CEO, Shiv Nadar School), Ms Shashi Banerjee (Principal, Shiv Nadar School, Noida) along with the faculty members and students of Shiv Nadar Schools and VidyaGyan Schools.

Post the launch event, the Boot Camp was officially open to all Shiv Nadar School and VidyaGyan School students from classes 6-12th, in which students from the Noida, Gurugram and Faridabad Branches of Shiv Nadar School and Buland Sahar and Sitapur Branches of VidyaGyan School actively participated. The event featured various fun-filled activities and interactive sessions for the students, to help them understand more about energy and the environment.

During this preliminary phase of the Energy Boot Camp, the students competed in Creative Activities Contests (such as Painting, Rap/Poem writing, Digital Art, Cartoon/Meme making, Video making and Slogan/Tag-line writing) on the central theme of "Sustainability: Energy and Environment". These activities were met with tremendous responses from the students, with each child using different mediums to voice their understanding and concern about the current global climate change and the importance of adopting sustainable energy sources to stop the global catastrophe.

In addition to the creative arts competitions, the Energy Boot-Camp team at IYNS had organized various Interactive Experiment Sessions on the *basics and the applications of Nuclear Science & Technology*, which met an enthusiastic response from the students. With *over 1000 participants*, these sessions included contemporary issues surrounding environment, nuclear science and sustainable energy. To further enhance students' learning, participating scientists took sessions with students in groups consisting of 100 each and shared more on nuclear disasters like Chernobyl and Fukushima Dacchii, while helping them understand the need for nuclear energy as a possible solution for the complex problem of global warming. The students were oriented on how nuclear energy can be harnessed for the benefit of mankind, for instance the use of nuclear medicine in treatment of cancer, power generation through nuclear fission and its use in forensic science and space exploration. They also conducted experiments learning kitchen thermodynamics and applying energy saving hacks and simulation of a nuclear reactor, among others. Students also deliberated on problems such as pollution, climate change and sustainable alternatives.

Apart from this, the students also took part in the **Inter-School Competition** organized by IYNS. This competition was divided into four rounds, with the first round **consisting of a Quiz Session**. To encourage student participation, our team drafted a comprehensive **Knowledge Booklet** that covered different topics related to Environment, Nuclear Science and Sustainable Energy, in a manner that was understandable to students of standards 6 to 12. We received a whopping response of **over 1800 participants**. Following this immense response, the IYNS team and the faculty members of the participating schools shortlisted **45 students** on merit basis and formed **15 teams consisting of 3 students each**, that took part in the subsequent rounds of the Inter-School Competition. These rounds engaged the students in activities such as conducting **video surveys** on the theme "**Public Opinion on Nuclear Energy, Radiation Applications and Climate Change**" as well as taking part in **Technical and Philosophical Group Projects** along with Team Mentors (consisting Nuclear Professionals, IYNS team and school faculty). The projects for these rounds were specifically tailored to help students understand the role of sustainable energy forms, including nuclear technology in mitigating environmental degradation.

At the end of the inter-school competition, four teams were selected to enter the Finale Round, where the students participated in the '**Youth Parliament**' on the theme "**Sustainability: Energy and Environment**" along with the Eminent International Experts and Panelist from various fields. This Youth Parliament was a part of the three-day **Interactive Lecture Series** planned by IYNS on the "**Basics and Applications of Nuclear Technology**" and the **Virtual Visits to the Indian Nuclear Facilities** on November 6-8, 2020.

The Interactive Lecture Series was launched by **Dr Rupa Manjari Ghosh (Vice Chancellor, Shiv Nadar University)** and **Ms Shashi Banerjee (Principal, Shiv Nadar School Noida)** under the esteemed presence of the Chief-Guests **Dr Rajeswari Pillai Rajagopalan (Distinguished Fellow & Head of Nuclear & Space Policy Initiative, Observer Research Foundation)** and **Mr Shikhar Malhotra (Executive Director & Board Member, HCL Technologies)**. Renowned scientists participated in these sessions to help students understand the dynamics of nuclear energy and its socio-economic and climatic implications in the world. These included **Dr Nitendra Singh (Founder and President of IYNS)**, **Dr Arvind Kumar (CSIR-National Aerospace Laboratories, Bangalore)**, **Dr Nikhilesh Iyer (Scientific Officer, Hydro Metallurgy Section, Materials Group, Bhabha Atomic Research Centre, Mumbai)** and **Dr Joyeeta Sinha (Plasma Physicist, ITER France)** among others. This event was held under the able guidance of **Ms Vinita Sharat (STEAM Co-ordinator of the Shiv Nadar School, Noida)**.

The **first day** began with informative lectures and activities on the **Role of Nuclear against Climate Change (delivered by Dr Nitendra Singh)**, **The Fundamentals of Science (speaker Dr Nikhilesh Iyer)** and **Radiation & Radioprotection (by M. Jehaan Nicholson)**. **Over 5000 students** joined us for this session via the MSTeams and YouTube platform. On **Day 2** of the Energy Boot Camp, **Mr Ganesh V.** discussed with the students the insightful **Applications of Nuclear Technology**, which was followed by lectures on the **Fission Technology (delivered by Dr Vaishnvi Tiwari)**, **The Nuclear Fuel Cycle and Waste**

Management (*speaker Dr Nitendra Singh*), and the Fusion Reactor Technologies (*by Dr Joyeeta Sinha*). The key highlight of these sessions was the e-visits to nuclear facilities in India and abroad. Students virtually visited the **Irradiation facility of Nuvia India (Mathura Road)**, which is a part of the international Nuvia Group specializing in nuclear products and services in support of India's most complex civil nuclear projects, **Tarapur Atomic Power Station**, the first commercial nuclear fission reactor built in India and the **International Thermonuclear Experimental Reactor Facility (France)**, where students delved deeper to understand what they were taught in class about nuclear energy. More than 1000 students and faculty members of the schools joined us for the this session. The closing day of the Energy Boot Camp witnessed a spirited discussion among our Experts and the student teams on the topic "**Sustainability: Energy and Environment**" during the Youth Parliament session. The Panel included eminent experts from all over the world: **Dr Kapil Narula (University of Geneva)**, **Dr. Nandakumar Janardhanan (Jawaharlal Nehru University, Nuclear First)**, **Mr. Raymond Fernandes (Director of Education, Shiv Nadar School)**, **Prof. Patrick Das Gupta (University of Delhi)** and **Dr Nitendra Singh (President, IYNS)**. The highlight of this discussion was the thought provoking questions that were asked to our experts by the young minds. **Ms. Shambhavi Singh's (student, VidyaGyan Sitapur)** remark highlighting the role of general public in creating awareness on Clean Energy applications and making the switch to clean energy technology to compensate for the depleting conventional energy sources, is just an example of the positive impact that IYNS team made on the future of our nation. The event concluded with the announcement of the winning teams of the Inter-School Competition and the Creative Arts Competitions. The winning team of the inter-school competition was also awarded with **IYNS's Dr. A.P.J. Abdul Kalam Fellowship** to visit a nuclear facility in India.

The entire team of IYNS is proud to to have successfully organized such a unique event on a grand scale. We are extremely grateful to Shiv Nadar School for their enthusiastic participation and the co-operation of all the faculty members and Shiv Nadar School administration. The event was extensively covered by various national and international news channels and web-portals like **ANI News, NewsGaliyara, India Education Diary, ZEE5 News, Bhaskar Live News, Tajikstan News and The Tokyo News** to name a few. **The Pioneer** newspaper dedicated an article (on Pg 11) to cover the concept behind this event and shared excerpts from their conversations with **Dr. Nitendra Singh, Ms Vinita Sharat** and some students. We encourage our readers to view the broadcasts of our Interactive sessions by visiting the YouTube channel of IYNS: **<https://bit.ly/37svQiP>**

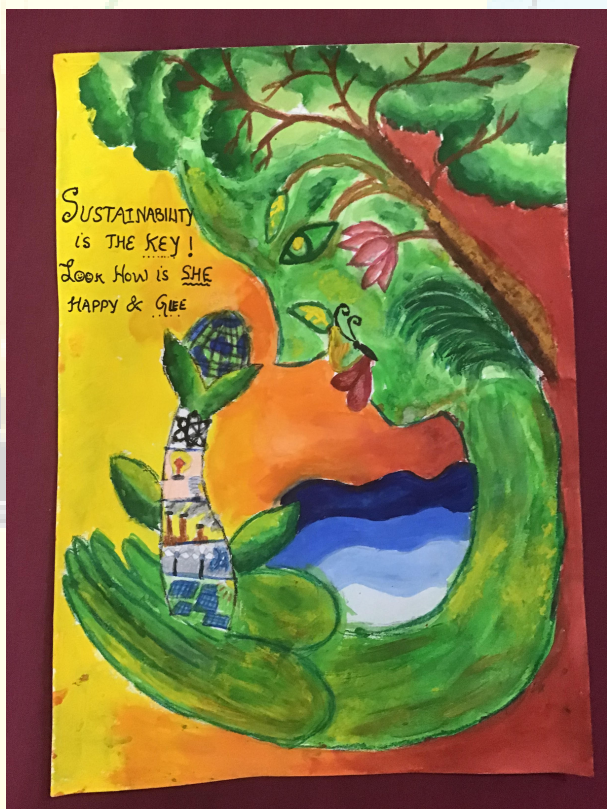
Winning teams of the Inter-School Competition

- **Ms Janvi Singh, Ms Shambhavi Singh and Ms Jyotsana Pandey (VidyaGyan, Sitapur)** - Winner
- **Ms Avantika, M Ayan and Ms Hiral Arora (Shiv Nadar School, Noida)** - 1st Runner-up
- **M Gaurav yadav, M. Ayush Yadav and M. Manendra Gangwar (VidyaGyan, Bulandsahar)** - 2nd Runner-up
- **Ms Saachi Gupta, M. Arnav Balyan and M. Dhruva Vijayvarghia (Shiv Nadar School, Faridabad)** - 3rd Runner-up

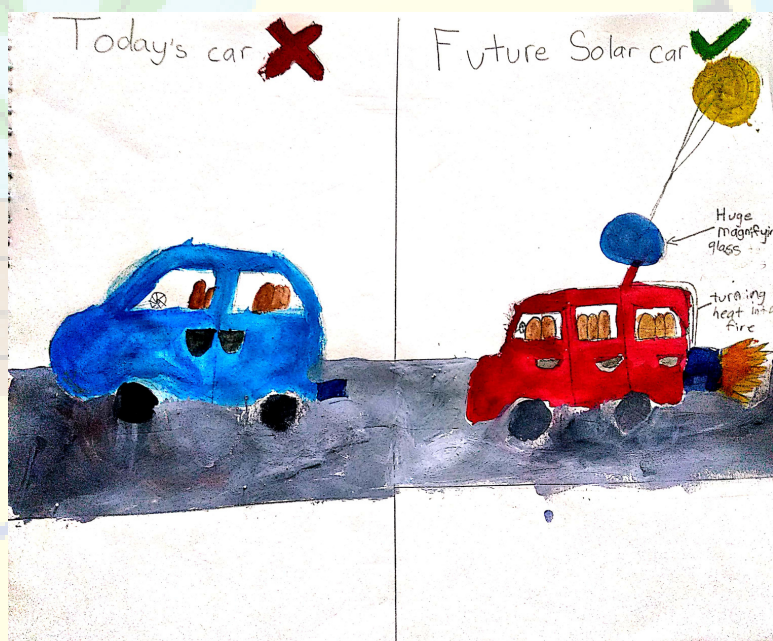
Winning Entries of the Individual Creative Arts Competitions

Painting Competition

Ms. Samprika Chakrabarti
Class 6, Shiv Nadar School, Noida
(First Prize)

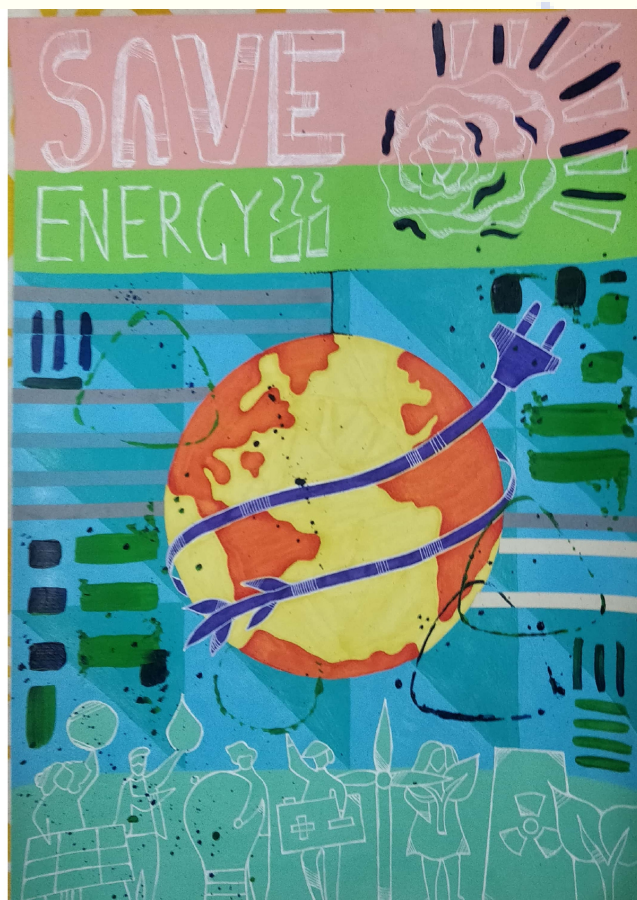


Ms. Swinzal Taneja
Class 8, Shiv Nadar School, Faridabad
(First Runner-up)



Ms. Maira Sikka
Class 4, Shiv Nadar School, Faridabad
(Second Runner-up)

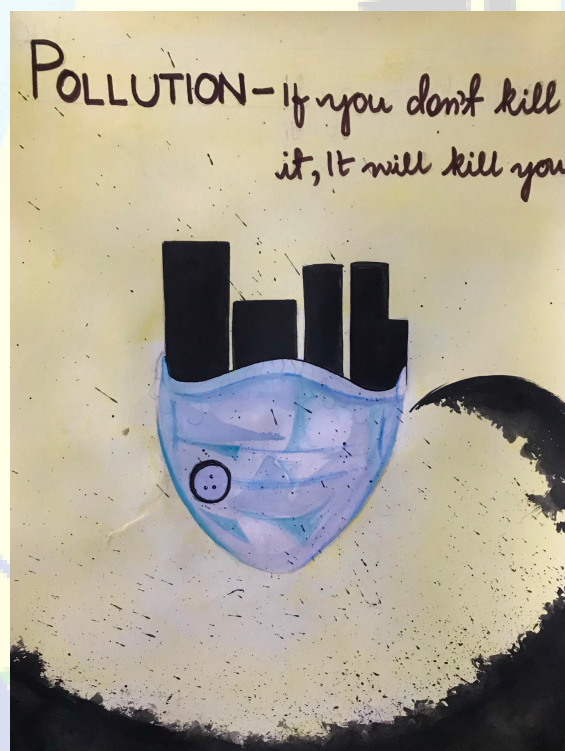
Poster Making Competition



Ms. Nirali Kanha
Class 9, Shiv Nadar School, Noida
(First Prize)



Ms. Shreya Gupta
Class 12, Shiv Nadar School, Gurgaon
(First Runner-up)



Ms. Krishvi Kohli
Class 12, Shiv Nadar School, Gurgaon
(Second Runner-up)

Digital Art Competition

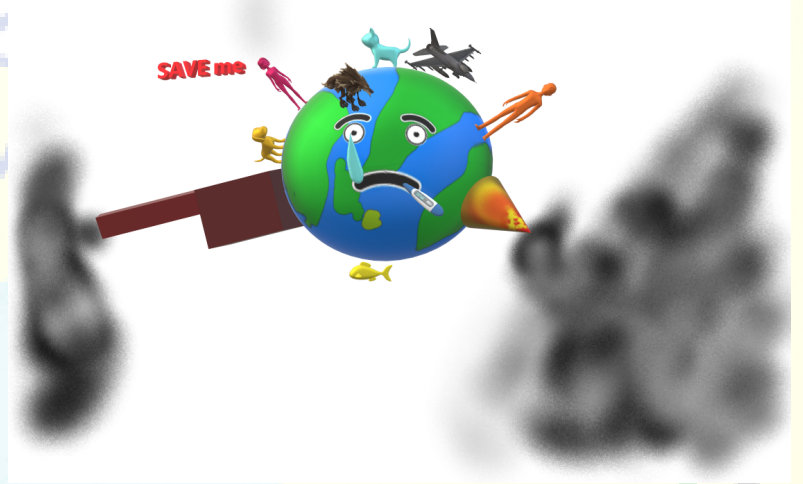
It is time for a sustainable energy policy which puts consumers who are responsible for the greener and brighter side of the world, the environment, human health and peace first.

-Dennis Kucinich



When you refuse to re-use, it's the Earth you abuse.

Ms. Srinika Verma
Class 7, Shiv Nadar School
(First Prize)

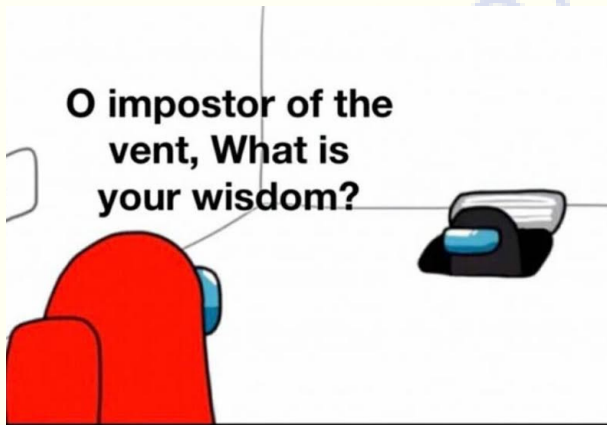


M. Shiven Kandoi
Class 5, Shiv Nadar School
(First Runner-up)



M. Vihaan Chaudhary
Class 6, Shiv Nadar School
(Second Runner-up)

Memos/Cartoon Competition

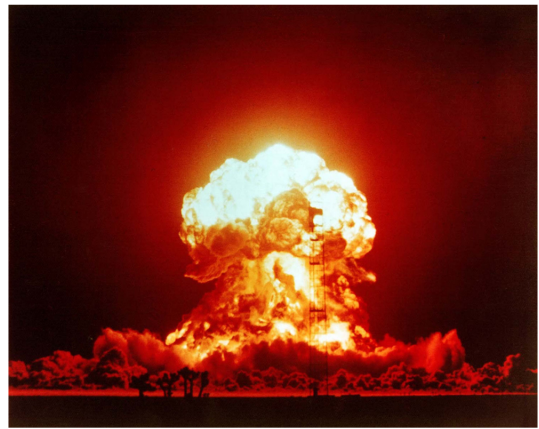


Only 11 years
left to save
our mother
earth



M. Shiven Kandoi
Class 5, Shiv Nadar School
(First Prize)

What people think Nuclear Energy is like:

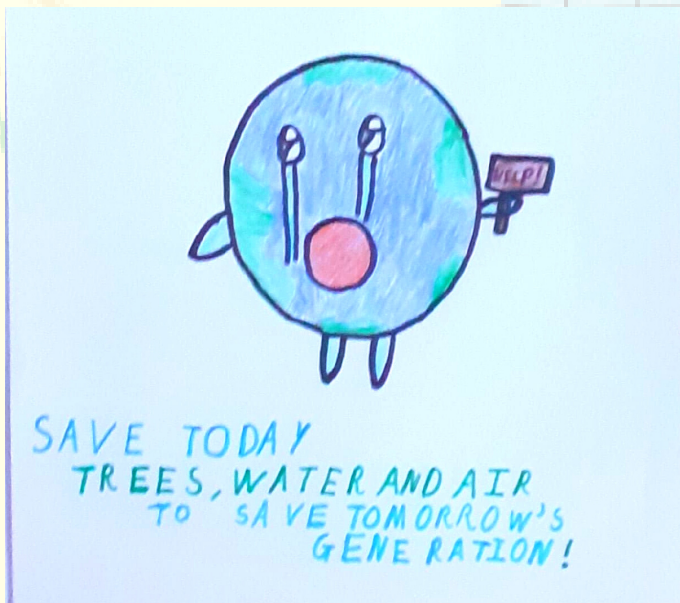


What Nuclear energy is
ACTUALLY LIKE:



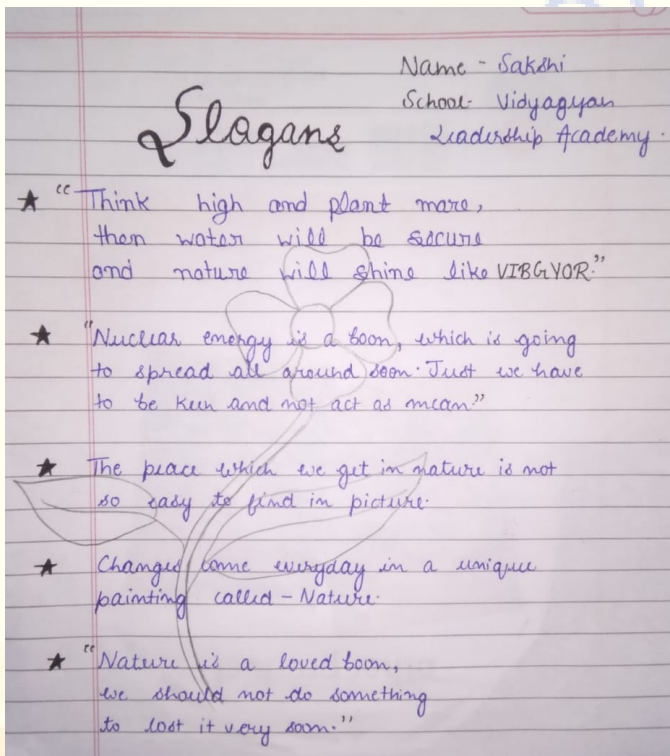
Safe and Reliable, doesn't
cause environmental
damage like coal and gas

M. Soham Verma
Class 9, Shiv Nadar School
(First Runner-up)



Ms. Aayana Aggarwal
Class 6, Shiv Nadar School
(Second Runner-up)

Slogans and Taglines Competition



Ms. Sakshi Dixit
Class 9, Vidyagyan Leadership Academy, Sitapur
(First Prize)

SLOGANS AND TAGLINES

Sustainability can change your life!

*Make your environment clean, Future green,
Are you ready and keen?*

Environment First..... It's Time!

*Make the world a sustainable place, for you
and for me and the entire human race.*

Better be sustainable than never!

Ms. Swinzel Taneja
Class 8, Shiv Nadar School
(First Runner-up)

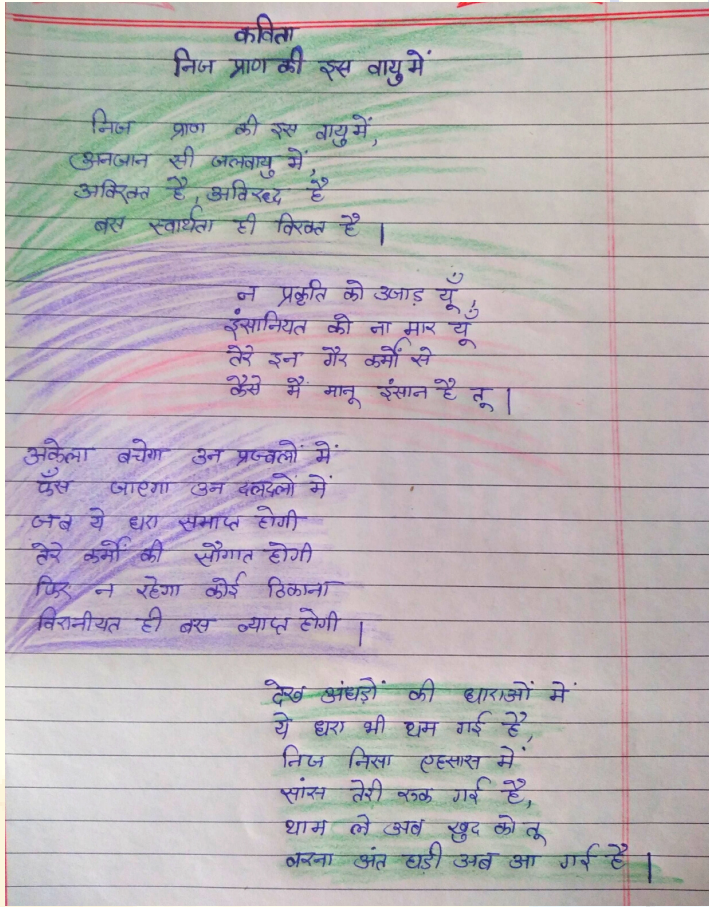
**Nuclear energy
dances And
Global warming
weeps**

M. Sumit Kesharwani
Class 9, Vidyagyan Bulandsahar
(Second Runner-up)

Movie/Documentary Making Competition

- Ms. Manya Parashar (Class 8, Shiv NAdar School, Noida) - First Prize
- Ms. Azura Lal (Class 6, Shiv NAdar School, Gurgaon) - First Runner-up
- M. Kaustubh Chaturvedi (Class 8, Shiv Nadar School, Noida) - Second Runner-up

Poem/Rap Song Competition



M. Anant Tiwari
Class 9, Vidyagyan Bulandsahar
(First Prize)

OUR MOTHER EARTH

Once upon a time at the holy planet Earth
A wise man had set out to explain its worth
"Look at her dither and agonize
We are just ideals here to criticize
Her for all her love and care
The harm done to her is unfair
Laving her with dirt and ordure"
It was the wise man's job to make sure
To find a balm to her bruises
The wise man chooses
The true way to lift the curse
Is by reading the sustainability verse
Stated below are some rituals
To help faster resource renewals
The first one was to use the 3 Rs
The second one to not mine any scars
Third one to Prevent Industrial "farts"
And the last but not the least
Not to enjoy a chicken's feast
The will power immensely strong
May lift the curse caused by the wrong
Habits people have developed
And let themselves from those habits get gulped
Making impious attacks on goddess earth
But now the old man had explained its worth
Let's all be that old man
And try to save her by doing all we can
Sustainability should be our only goal
Let's start by not using coal.

- Tanush Bhatnagar

M. Tanush Bhatnagar
Class 8, Shiv Nadar School
(First Runner-up)

Save Me, Save All!

We should protect our environment,
Or it will take retirement.
And if this happens, then we will be on fire,
And this will destroy everyone's desire.

Our environment should be our priority,
Because it gives us authority,
To make the world a better place to live in,
And make everyone win!

We should use non-conventional sources of energy,
Because if we won't use 'em, then we will have an allergy!
As they are clean sources and does not harm our environment,
And it will give us enlightenment!

Why not make our environment sustainable?
So that our lives become gainable!
Make it green or black,
To bring everything on track!

Sustainability means to maintain,
So, let's make our environment sustain.
I know it's really tough to do so,
Knowing what we have done, it's what we owe.

Now, let's take initiative,
And make deforestation prohibitive.
Make everyone proud,
So that you can stand out!

~ Our Environment

Ms. Swinzal Taneja
Class 8, Shiv Nadar School
(Second Runner-up)

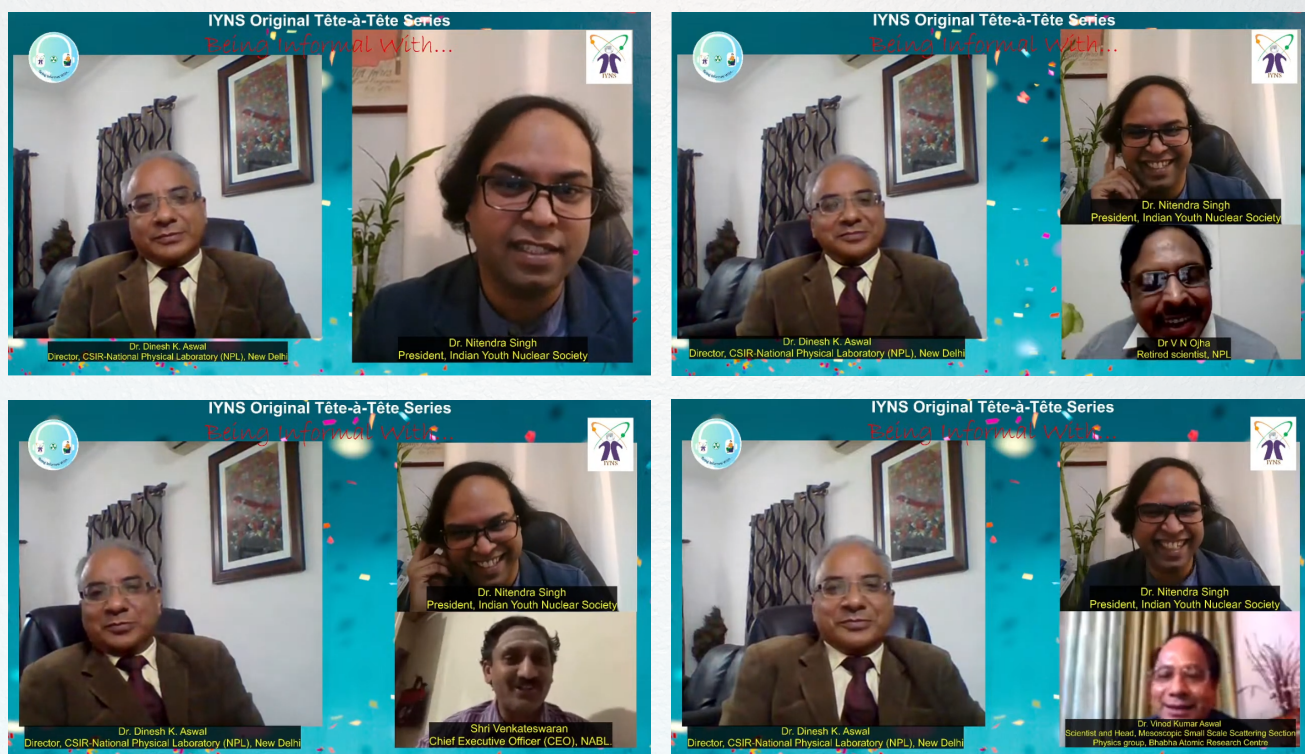
"Being Informal With Dr. Dinesh K. Aswal..."
IYNS's original Tête-À-Tête Series
(November 29, 2020)



The IYNS team had another successful episode of its original Tête-À-Tête Series: "Being Informal With..." on November 29, 2020, with Dr. Dinesh K. Aswal (Director of CSIR-National Physical Laboratory and Outstanding Scientist of Physics Group, BARC). Dr Aswal has been associated with the CSIR- National Physical Laboratory (CSIR-NPL), New Delhi with effect from 15th December 2015 maintaining lien with his position as "Outstanding Scientist" at Bhabha Atomic Research Centre (BARC), Department of Atomic Energy (DAE), Government of India, Mumbai. Dr. Aswal, during 2012-2015, has also served as Secretary, Atomic Energy Education Society (AEES), Mumbai, which is an autonomous institution under DAE. He is known for his valuable contributions to the field of molecular electronics, organic films and gas sensors, and his latest achievements include the securing of the trademark of Bhartiya Nirदेशक Dravyas (BND) which is the Indian Certified Reference Materials. Dr. Aswal has also been heavily invested in the ongoing efforts of enhancing the metrological capabilities of India to bring it at par with International Standards. For this, he has developed the "Aswal Model of Inclusive Growth of India", which is focused on helping our nation's development by supporting industries and strategic sectors. During this session, Dr. Aswal and Dr. Singh were also joined by Dr Vinod Kumar Aswal (*Scientist and Head, Mesoscopic small scale scattering Section under Physics group at Bhabha atomic Research Centre*), Dr V N Ojha (*Retired scientist at National Physical Laboratory, Dr. Ojha was instrumental in setting up of Atomic Clocks generating IST with one of the best uncertainties in the world*) and Shri Venkateswaran (*Chief Executive Officer (CEO) of NABL*).

Our host engaged Dr. Aswal in an insightful discussion on his work in the field of metrology. Dr. Aswal graciously responded to this by sharing with us his professional experience and interactions with the national and international laboratories for physical measurements. He emphasized on the importance of correct measurements and its impact on the different sectors of our day to day lives. He discussed with us the history of setting up a National Measurement Institute in India, which actually dates back to the British era (establishment of the National Test House in Kolkata in 1910) and how the international standard (SI) units were introduced to India. He explained the importance of achieving a standard measurement system throughout the country and the crucial role played by the National Accreditation Board for Testing and Calibration Laboratories (NABL) in terms of recognizing the technical competence of testing, calibration, medical testing laboratories, Proficiency testing providers & Reference Material Producers for a specific scope by following the respective ISO standards. Dr. Aswal also shed some light on the recent trademarking of the Indian Standard Time and how it impacts the national income. He explained the importance of how the standardization of Time and Measurement units is crucial for domains as diverse as cyber-security, banking sector, defense systems, satellite navigation, transportation services, textile industries, energy sector and medical field.

He also discussed about his transition from working as a scientist at BARC, to working on various international projects and finally becoming the Director of CSIR-NPL. He applauded the efforts of the Indian Scientific community and shared his personal experiences to motivate the current and aspiring scientists to work hard and fearlessly towards the development of our nation. He emphasized on the crucial role played by Industrialization and Science and Technological development on India's Economic Growth, and how Metrological traceability is the backbone of this successful path.



Our accompanying guests also shared their experiences of being involved with Dr. Grover on a personal and a professional level. **Dr. Ojha** shared with us his experience of working with Dr. Aswal. He applauded Dr. Aswal's enthusiasm for acquiring new knowledge and his efforts behind improvement of atomic clocks to enhance the Indian Standard Time to a remarkable accuracy limit of 2.8 nanoseconds! Furthermore, **Shri Venkateswaran** shared with us some instances where Dr. Aswal's persistence and his tremendous leadership positively drove his team members to achieve the best possible results in the face of adverse circumstances. **Dr. Vinod Aswal** also shared with us Dr. Aswal's childhood stories, his academic accomplishments, inquisitiveness and his immense fondness for cinema.

Keeping up with the tradition of the show, our host asked Dr. Aswal to nominate three guests which should be invited at the Being Informal With.. platform. Dr. Aswal nominated **Dr. K.N. Vyas** (Chairman, DAE), **Prof. K. VijayRaghavan** (Principal Scientific Advisor to the Prime Minister of India), **Dr. A.K. Mohanty** (Director of BARC) and **Dr. Shekar C. Mande** (Director-General of CSIR).

Towards the end of this interesting exchange, Dr. Nitendra Singh made some extremely important announcements for our viewers. He reminded our viewers about the upcoming **Platinum Foundation Day** that is to be celebrated at NPL on **January 4th, 2021**. The key highlight of this occasion will be our **Prime Minister, Shri Narendra Modi** dedicating the following world class capabilities to the nation:

- **“National Primary Timescale of India”** or National Atomic Clock Ensemble that is capable of generating Indian Standard Time (IST) with **2.8 nanoseconds** accuracy (one of the best in the world) for self-reliance in time and frequency signals and the **Pan-India time synchronization link for cyber safe digital India**. The Indian Space Research Organization’s timing is to be synchronized to the NPL-IST.
- Laying of the **Foundation Stone for India’s first National Environmental Standard Laboratory at CSIR-NPL**, making India self-reliance in the Certification of Ambient Air and Industrial Emission measuring equipment. This has been Gazette notified by Government of India, and will be at par with the certification schemes of **USA** and **UK**.
- Dedication of the facility of Indian Reference Materials - trademarked as **Bhartiya Nirdeshak Dravya (BND)** for self-reliance in supporting more than 4 lakh testing and calibration laboratories for quality assurance at par International Standards. BNDs of petroleum, pure gold, coal, water, food, pesticides, etc have been produced and marketed to national and international communities.

Dr. Singh also announced the book launch event for the book **“Metrology for Inclusive Growth of India”** that has been edited by Dr Aswal, to commemorate the 75th Foundation day of NPL.

We would like to thank Dr. Aswal and our guests once again for taking out the time to share these inspiring stories with us. We also express our sincerest gratitude towards our viewers for supporting this venture. We look forward to your active participation in our upcoming episodes as well!



OUR UPCOMING EVENTS



Interactive Lecture on "Risk & Reliability Engineering and its Applications in the Nuclear Sector" December 20, 2020

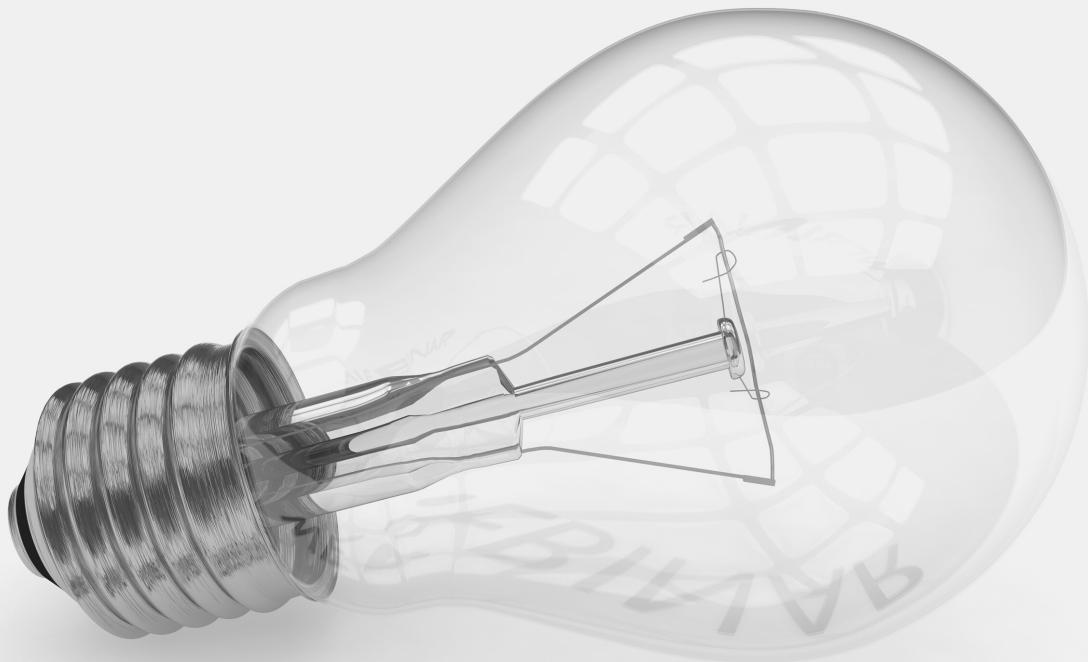
IYNS and Amity Institute of Nuclear Science and Technology are jointly organizing an Interactive Session on the "*Risk & Reliability Engineering and its Applications in the Nuclear Sector*" on December 20, 2020 at 17H30 (IST).

To deliver this lecture, we have with us Dr. Amit Chandrakar- who is positioned as a *Lead Engineer at Airbus, Bangalore*. Dr. Chandrakar has a PhD in Mechanical Engineering from the Homi Bhabha National Institute, Mumbai. He has over 10 years of professional experience in the Fields of Reliability, Health Monitoring and Data Analytics. The upcoming session will be focused on the basics of Risk Mitigation and Safety Analysis Principles for Nuclear Power Plants.



The session is open to all public and we encourage our followers and readers to participate in it by visiting:

<https://www.youtube.com/c/IndianYouthNuclearSocietyIYNS>



WEBINAR



Mid-Season Special Episode for "Being Informal With..." December 27, 2020

The IYNS team is proud to present its guest for the upcoming **episode** of our chat show - "Being Informal with..." which is to be aired on its YouTube channel on December 27, 2020. Our goal is to air interactive sessions with the eminent scientists of our nation, every month on our YouTube channel. As the name suggests, the talk will be informal and very casual. Through these sessions, our host Dr. Nitendra Singh brings to you their non scientific/technical side along with their experiences, life lessons and their advice.

The entire team of IYNS is grateful for the immense support and the phenomenal response received from you - our dear viewers, for its flagship show 'Being Informal With...'. This month IYNS is taking a **mid-season break** for the show and is planning for a **special telecast**. For this exclusive episode, we plan to include our audience with us **this time**.

We are very excited about this new engagement and look forward to your participation with us. To be a part of this idea, you can share either a **short video message or a written message** along with your picture with us, telling others your thoughts, experience, or views about this show. We will include them in our special episode that shall be aired on **27 Dec 2020 at 17H30 (IST)**.

Here are certain points that we request our readers/followers to keep in mind while submitting their thoughts:

- We encourage you to please respect the time limit for submitting your messages. If it is a video: the limit is 2-3 minutes; if it is a text message: the word limit is 200 words.
- Please include your photograph with your message note.

The link for submitting the entries is: <https://bit.ly/3gWfyGa>

We invite all our followers to actively participate in the sessions. Looking forward to hearing from you all!

MEET OUR TEAM

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REACH OUT TO US!

Join us to help our cause to support Nuclear Energy!

To register at IYNS : <http://iyns.in/iyns-registration/>

For more information visit <http://iyns.in/contact/>



Handmade 'Rangoli' made by students of Nutan Mahavidyalaya, Maharashtra



contact.iyns@gmail.com



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<https://www.instagram.com/iyns.in/>



<https://twitter.com/YouthIyNs>



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