



# NUCLEAR NEWS

THE MONTHLY NEWSLETTER

JULY 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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## FROM OUR PRESIDENT'S DESK...

*"It has been a decade since the inception of the idea of IYNS and it is overwhelming for me to witness the release of our first newsletter. A conscious youth is the backbone to the development of any nation. The idea of IYNS was to provide a platform where Indian youth can appreciate the importance of nuclear technology in our country's development. With time, our objectives have evolved to include the global issue of climate change. Furthermore, we have introduced a dedicated innovation arena to contribute to the technical growth of our country and to enhance the scientific temperament of the youngsters. At IYNS, we work together to achieve the above goals with fun.*

*I would like to congratulate the entire IYNS team, all associated members and all those people who made IYNS what it is today. I profoundly express my sincere thanks to the IYNS editor-in-chief, Dr. Vaishnavi Tiwari, for compiling and editing this unique version of the newsletter. This legacy will now continue to publish each month with exciting events and surprises for all of you.*

*My sincere gratitude to all our followers and members, the associated organizations and respected mentors for being there with us and showering us with their support."*



*-Dr. Nitendra Singh  
President (IYNS)  
president.iyns@gmail.com*

# IYNS - WHO ARE WE?

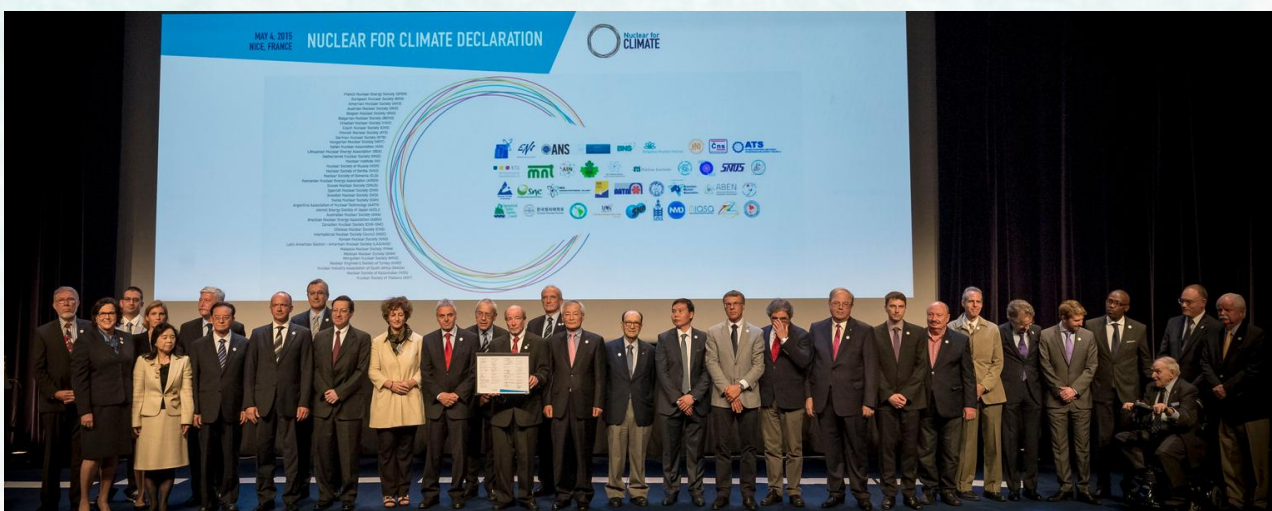
Indian Youth Nuclear Society (IYNS) is a forum of Indian nuclear professionals, who have come together to take the responsibility of spreading the awareness and benefits of nuclear technology among the general public and encourage the Indian youth to learn and contribute to the Indian Nuclear Program. Our association is working under the guidance of Indian Nuclear Society (INS) and we are closely associated with the activities of the Department of Atomic Energy (DAE). Furthermore, IYNS is the national chapter of International Youth Nuclear Congress (IYNC).

To give you a little background, when the IYNS first came into force in **March 2014**, our primary goal was to conduct outreach activities for spreading awareness about all nuclear related technological developments viz. power generation, health care, agricultural, industrial applications etc. Today, these activities form the central theme of our **Nuclear Technology Outreach Wing (IYNS-NTO)**.



**Participants of IYNS's First Board Meeting**

On May 4 2015, IYNS signed the "Nuclear for Climate" Declaration under the flagship of the INS at the International Congress on Advances on nuclear Power Plants (ICAPP) in Nice, France. To honor our commitment towards "achieving recognition that nuclear is a low-carbon energy which is a part of the solution to fight climate change", our organizational structure evolved to include the **Climate and Energy Forum Wing (IYNS-CEF)**. As of present day, **IYNS-CEF** serves not only as a platform to discuss about the role of nuclear as well as renewable energy sources in fighting climate change, but also has an active participation in organizing Plantation drives and the **Nuclear4Climate** campaigns.



**Signatories to the "Nuclear for Climate" Declaration at ICAPP 2015 (Nice, France).**



**The President of IYNS (far right) with the Director General of SFEN - Mme Valerie Faudon (far left) after signing the declaration.**

Since the foundation, our journey has been nothing less than interesting. Each day presents us with new opportunities to make a difference to the world. One of the key turning point of our organization was our inclusion to the **Nuclear Innovative: Clean Energy Future (NICE Future) Declaration** on 13 May 2019, which marked the introduction of the **Innovation and Technological Wing (IYNS-Innotech)** of IYNS. This connected us to the world of thinkers, innovators and mentors who use the **IYNS-Innotech** facility to explore their innovative ideas in the field of science and engineering and share their concerns with multi-disciplinary competent people.



Above: Signatories to the NICE Future Declaration at the ICAPP 2019 (Juan Les Pins, France)

Left: IYNS President signing the NICE Future Declaration at the ICAPP 2019.

# DECLARATION FROM NUCLEAR SOCIETIES

MAY 13, 2019  
JUAN-LES-PINS, FRANCE

## WE THE UNDERSIGNED,

Women and men scientists, engineers, and professionals representing national, regional and international scientific societies, as well as numerous technical organizations dedicated to the development and peaceful use of nuclear technologies,  
Gathered here today in Juan-les-Pins – France

## ABOUT THE FUTURE ROLE OF NUCLEAR ENERGY:

**AGREE** that climate change is the most significant threat to our planet today, and with the objectives of the Paris Agreement to limit global warming by the end of this century to well below 2 degrees Celsius above pre-industrial levels, with further efforts to limit the increase to 1.5 degrees Celsius.

**ARE CONCERNED** that the world is not progressing quickly enough in meeting this goal.

- The latest Intergovernmental Panel on Climate Change (IPCC) report sends a clear warning that the 1.5°C temperature increase may be exceeded already by 2030.
- According to the International Energy Agency (IEA), in 2018 global energy-related CO<sub>2</sub> emissions rose 1.7% to a historic high of 33.1 Gt CO<sub>2</sub>.

**REMINDE** that:

- Nuclear energy is recognized as one of the lowest carbon sources of electricity. According to the IPCC, the median lifecycle emissions from nuclear energy are 12g/kWh, similar to wind energy.
- International institutions (United Nations, Organization for Economic Cooperation and Development, European Union) believe that all low-carbon technologies (renewable, nuclear and carbon capture & storage) will need to be implemented in order to achieve deep decarbonization by the middle of this century. This is reflected in the latest 2018 IPCC report, the four 1.5°C illustrative pathways in the Summary for Policymakers include more nuclear energy, with a two-fold to six-fold increase in the use of nuclear power by 2050.

## ABOUT THE NEED FOR INNOVATION FOR NUCLEAR ENERGY:

**NOTE** that:

- There is global consensus that accelerating clean energy innovation is essential for limiting the rise in global temperatures, and some progress has been made in that direction: according to the IEA, the amount of public R&D investment in clean energy has doubled since 2000. Also, the launch of the Mission Innovation initiative in 2015 includes the objective of another doubling of the investment for low-carbon energy research by the 2020 timeframe.

**HIGHLIGHT** that:

- The current level of public support for nuclear R&D (fission and fusion) has remained constant around 4 billion USD per year (in 2014 value) since 2000, in a "business as usual" situation. Additionally, in many countries, the private sector has been less eager to invest in nuclear R&D, for a variety of reasons including mixed or negative political signals, electricity market designs that have had a negative impact on the business case for nuclear energy, and perceptions on the level of financial risk required to be taken by private investors.

**POINT OUT** that:

- The nuclear industry is currently undertaking a new wave of creative projects around innovative reactor technologies (e.g. Small Modular Reactors, Gen IV reactors), cross-cutting technologies (e.g. digital transformation) and new applications (e.g. desalination, district heating, process heat for industry, hydrogen production), all requiring significant R&D investment and new innovative approaches.
- These projects are expected to open new market opportunities for the use of nuclear power together with other clean energy sources, often in sectors where they can make a decisive contribution to the decarbonization effort (e.g. the heating sector).
- At the same time, a large proportion of the R&D infrastructure is becoming obsolete and needs to be renewed not only to support the development of this new wave of innovative reactors, but also to produce the radioisotopes needed for the development of nuclear medicine.

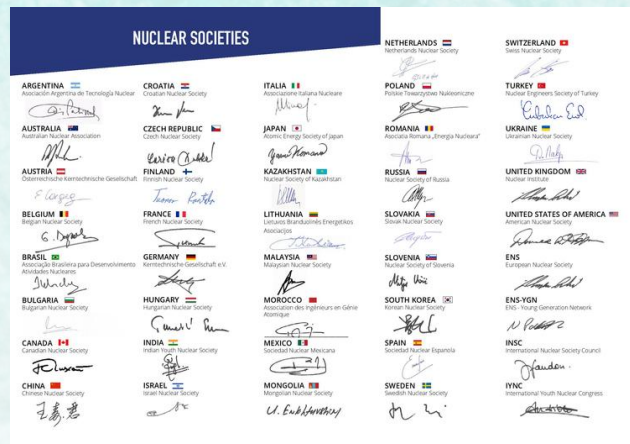
Hereby declare that

**WE ASK**

**THAT THE CLEAN ENERGY MINISTERIAL CONFERENCE TAKE NUCLEAR INNOVATION TO BROAD MULTILATERAL DISCUSSIONS ON CLEAN ENERGY AT BOTH THE MINISTERIAL AND WORKING LEVELS, SO THAT NUCLEAR ENERGY CAN MAKE ITS FULL EXPECTED CONTRIBUTION, AS PART OF THE CLEAN ENERGY PORTFOLIO, TOWARDS DECARBONIZATION GOALS. COMMIT TO A DOUBLING OF PUBLIC INVESTMENT IN NUCLEAR-RELATED R&D AND INNOVATION WITHIN THE NEXT 5 YEARS, WITH A FOCUS ON INNOVATIVE APPLICATIONS OF ADVANCED NUCLEAR SYSTEMS TO ENABLE THE CLEAN ENERGY MIX OF THE FUTURE**

And

Have **DECIDED** to jointly sign this declaration and would like to bring it to the attention of decision-makers internationally.



The declaration from Nuclear Societies at ICAPP 2019

We are proud of all that we have achieved, and at the same time humbled by the support of all our members. Your participation motivates us to keep working hard to achieve our goal of creating a free thinking society which believes in the role of nuclear technology to fight climate change!

# MEET OUR TEAM



## Dr. Nitendra Singh

Nitendra is the founder and president of IYNS. A Nuclear engineer by profession, he is fond of traveling, photography, hiking and also passionate about cooking. His research interests include nuclear safety & design, reactor thermal hydraulics and Nuclear severe accidents.

In addition, he is an avid speaker on Nuclear4Climate, advanced technologies and public awareness. He can be contacted via:-

Instagram: @nuke\_nits

Facebook: <https://www.facebook.com/SINGHNITENDRA>

LinkedIn: <https://www.linkedin.com/in/singhnitendra/>

Twitter: @Nitendra\_S

## Sunaina Kundra

Sunaina is working as the General Manager for the IYNS team. A post-graduate in Nuclear Science & Technology from University of Delhi, she has experience in management, business development and techno-commercial domains of the industry. She is responsible for managing the society's administrative work, communications as well as coordination of internal and external activities. She cares for the environmental issues and believes in sustainable actions for the society's development. Sunaina is fond of dancing, swimming, travelling and sometimes also likes to explore her creative skills.



## Jehaan Nicholson



Jehaan is the media manager at IYNS. Currently he is in France, doing his PhD with the French atomic and alternative energies commission (CEA) at their Cadarache centre. His PhD is in nuclear physics on the topic of Determination of fission product spin from isomeric ratio measurement. He is also the vice-president of ASTHEC which is the PhD student association of CEA-Cadarache. His passion is to spread awareness about nuclear and expel the myths about radiation from minds of the common public. He loves to cook, travel, visit new places, try out new cuisines and is a total foodie.. He is a cinévore, his appetite for movies and TV series is gigantic.

## Samyak Munot

Samyak is the IT Manager at IYNS. He is currently in Mumbai, pursuing his PhD in Experimental and CFD simulations of ablation behaviour of sacrificial material by molten corium for design of IPWR Core Catcher, from Homi Bhabha National Institute, Bhabha Atomic Research Centre, Mumbai. He is an Applied Nuclear enthusiast and always has time for a good Old School Shayari. Additionally, his interests include Severe Accidents, learning new software, reciting Shayaris and debating.



## Dr. Vaishnvi Tiwari

Vaishnvi is the editor-in-chief at IYNS. She has a Ph.D. in Physics from Ecole Polytechnique, Université Paris-Saclay in France. Her research focused on modelling and simulation activities related to the Severe Accidents in Light Water Nuclear Reactors. She is also associated with the website "Nuclear Energy - The Better Energy", where she is a part of the editorial team. She is a nuclear energy enthusiast, a book lover and has a keen interest in creative art, music and baking.

## Contact information:-

- [president.iyns@gmail.com](mailto:president.iyns@gmail.com)
- [gmanager.iyns@gmail.com](mailto:gmanager.iyns@gmail.com)
- [mediamanager.iyns@gmail.com](mailto:mediamanager.iyns@gmail.com)
- [itmanager.iyns@gmail.com](mailto:itmanager.iyns@gmail.com)
- [editor.iyns@gmail.com](mailto:editor.iyns@gmail.com)

# OUR PAST ACHIEVEMENTS

## #NULCEAR4CLIMATE Photo campaign



In an enthusiastic response from all over the country, we received a number of photos of people supporting nuclear as the viable solution in fighting climate change. Combining online and offline approach, we could reach nearly 5000 people during this campaign.







## IYNC Board of Directors Meeting

The President, IYNS participated in the IYNC board meeting of 2015 as the national representative of India and as the board member of IYNC. During the meeting he briefed the board about the activities conducted by IYNS in India. He also presented the vision and planned projects of IYNS which were realized later in that year. This was the beginning of the true collaboration of IYNS with IYNC. Following this meeting, our President was involved in several IYNC activities like setting the South-east Asian young generation forum, amendment in IYNC bylaws, Nuclear4climate campaign, as the workshop manager during the congress, etc. The board meeting also helped in establishing the better cooperation with other Young Generation Networks of different nations.



## Talk at Atma Ram Sanatan Dharma College, Delhi University



A lecture series was organized in connection with the #Nuclear4Climate campaign at the Atma Ram Sanatan Dharma College of the University of Delhi. Under the esteemed presence of Dr. Gyantosh Jha (Principal Atma Ram Sanatan Dharma College), Shri. Pankaj Bhatnagar (Deputy Director, Bureau of Indian Standards) and Shri. Bhupendra Singh (Executive Engineer, CPWD), this one-day event included lecture series on N4C. Prof. Ram Mohan of The Energy and Resources Institute (TERI) gave a special lecture on the awareness for technological aspects of nuclear energy. Dr. Sunil Kumar (then General Secretary, IYNS) discussed about the importance of Youth Organizations in India for carrying out nuclear energy awareness activities, whereas Dr. Nitendra Singh (President, IYNS) spoke about the #Nuclear4Climate initiative. The event also saw the launch of the N4C t-shirts and a Tree Plantation Drive.





## National Workshop on Nuclear Communication

The two day National Workshop on “Development of Indian youth as “Nuclear Communicators” was organized at the AERB Auditorium on November 19-20, 2015, Mumbai in association with INS. This was of the first National Level events organized by the IYNS and it was our honour to have **Shri Kaustubh Shukla (COO, Godrej & Boyce)** as our chief-guest for this event. The first day was dedicated to the lecture series that covered topics viz. nuclear technology, medical applications, agricultural applications, awareness techniques, industrial applications etc. The experts were called from DAE, BARC, NPCIL and AERB. The closing lecture of the day was delivered by **Shri S.K. Malhotra (then Head of Public Awareness Division, DAE)**. The second day was reserved for a visit to the BARC facilities, which included the research reactor, food irradiation facility, fuel handling, and other facilities. BARC had also organized a public exhibition of their technology at the event site. About 200 people from colleges and industries took part in this event.





## Tree Plantation Drives

Planting a tree and nurturing it is considered to be the sacred and religious task in India. The IYNS combined this tradition with nuclear awareness by organizing a one-day Plantation Drive in connection with the #Nuclear4Climate campaign. For the event, IYNS donated 100 tree saplings and participated in plantation activities at various locations.





## Bike Rally



In a bid to spread awareness about nuclear technology and its role in fighting climate change, INS and IYNS jointly organized a **#Nuclear4Climate** bike rally on **November 27-28, 2015**. The two-day rally aimed at promoting the cause among students, faculties, professional and general public while traversing **Mumbai-Pune-Mumbai**. The objective of this bike rally - a joint initiative by INS, IYNS and **French Nuclear Society (SFEN)**, was to create awareness about importance of nuclear energy in fighting climate change and helping in limiting the average Earth temperature rise by 2°C. A total of 23 bikers, from Nuclear Power Corporation of India Ltd. (NPCIL) and Bhabha Atomic Research Centre (BARC), enthusiastically participated for this noble cause.



The rally was led by **Shri. Sanjeev Kumar Sharma**, NPCIL (Former National representative to IYNC) and **Nitendra Singh** (President, IYNS). **Shri N. S. Gabhane**, (Director, Directorate of Construction, Services & Estate Management (DCSEM), DAE) flagged off the rally in presence of **Shri R. K. Singh** (Secretary, INS) and **Shri S. P. Dharne** (former Director (HR), NPCIL) from Anushakti Nagar.

The rally was welcomed at its first stop - **Saraswati College of Engineering**, by the College Principal **Dr. Manjusha Deshmukh**. This was followed by an interactive session among the staff gathering and our team, after which the audience actively participated in the **#Nuclear4Climate** photo campaign.





The rally was then flagged off by Wing Commander L. Devarajan (Retd) GM administration towards Pune, where the second stop was at Forbes Marshall Industries in Pimpri.



After a warm welcome by Mr. A.K. Jain (FM Industries) and an interactive session with the company employees, the rally was escorted by Mr. Hrushikesh D. Bhakre (Manager-Purchase) towards Walchand Nagar through Pune City.

Shri G.K. Pillai (CMD Walchand Nagar Industries) and other dignitaries of Walchand Nagar Industries heartily welcomed the rally at their Pune office. The gathering of their staff members was then addressed by Shri Sanjeev Kumar Sharma, where he explained the importance of nuclear energy towards fighting the climate change. The event rounded up the first day of the rally.

The second day of the rally started from Walchand Nagar Industries in the direction of the **AISSMS Institute of Information Technology, Sangamwadi, Pune**. At the Institute **Dr. Pradeep B. Mane (Principal)** welcomed us. The humble audiences of faculties and staff members were addressed by our experts and were explained about the nuclear technology and its role in fighting climate. Their questions on effects of radiation, concerns of nuclear waste and other issues were convincingly addressed. The audience also participated in **#Nuclear4Climate** photo campaign.



Afterwards, the Principal flagged off the rally with an overwhelming excitement and good wishes for rest of the journey. The rally then passed through lush green mountain covered path to reach **Indira College of Engineering & Management at Paranwadi, Pune**. The principal and other management members of the institution excitedly welcomed the rally on their campus. Our team leader conveyed the message to the group of faculty and staff members regarding the role of low carbon nuclear energy in helping to maintain the rise in Earth's average temperature below 2°C rise.



The rally was then flagged off by Professor Ingole (Principal); and we took a route to our final last but not the least stop-over - Nutan Maharashtra College of Engineering in Talegaon, Pune. We received a hearty welcome by the chairman and trustees of the college.



In the end, the rally was flagged off by **Dr. Rajendra Kanphade (Principal)**, towards our final destination, covering a distance of about 350 kilometers and interacting with nearly 600 people.

The successful and safe #Nuclear4Climate bike rally came to an end while reached back at Anushakti Nagar on **November 28, 2015**. The rally was welcomed and addressed by **Shri R. K. Singh** and **Shri S. P Dharne**. They appreciated the efforts and encouraged the bikers for such rallies in future too. It was really an amazing journey with wonderful people and exciting audiences.







## Visit to the Tarapur Nuclear Power Plant

Operated by the Nuclear Power Corporation of India Limited (NPCIL), the Tarapur facility is the oldest and largest nuclear power plant in India. Till date, IYNS has organized several site visits and had an overwhelming response from nearly 400 students.



## Popular Lecture Series

Our team organized and participated in various events in different colleges and schools. We were able to reach four engineering institutions, two management colleges, two multidisciplinary colleges and over 18 schools. The aim of the lecture series was to motivate the students into choosing Nuclear as their future career and also to educate the students about our cause. The speakers for the lecture series included prominent personalities like Dr. Archana Sharma (Principal Scientist at CERN) and Dr. Patrick Das Gupta (present HOD, Department of Physics, Delhi University), along with IYNS President, Dr. Nitendra Singh. We were able to reach more than 1500 students from different educational backgrounds.





## Public Lecture Series

Various lecture series were organised in co-operation with local Resident Welfare Associations (RWAs) in Delhi and Uttar Pradesh, where experts and speakers from different institutions were brought together with the general public to share the valuable information about the beneficial nuclear technology and remove the myths from their minds. We are grateful to Shri Ram Sewak and Shri J P Singh of the Ministry of Defence for helping us organize these successful events.



## Invited Lectures at Poornima University



We are grateful to Dr Manoj Gupta (PRO President) and Dr Priti (Dean SSH) at Poornima University, Jaipur for their active participation to our cause. The University was established in 2012 by an act of the Rajasthan legislature. With a current enrollment of more than 2700 students from all over the country, the faculty at Poornima University believes in the holistic development of each student.

To support us in our activities, Poornima University has invited the IYNS President Dr. Nitendra Singh to speak to the students on two separate occasions in 2018 and 2019. During the 2018 event, Dr. Singh spoke on the topic “Challenges and Opportunities for Science and Engineering Students in Future Energy Saving”. He discussed about the role played by the booming population in causing energy crisis and the consequent global climate change due to increased fossil fuel consumption. He also explained the importance of Nuclear as well as renewable energy in mitigation of climate change by reducing the carbon footprints. He explained to the students how they could be a part of this industry.



Dr. Singh's second invited lecture (2019) was on the “Opportunities for Bachelor and Master Students in Global Mega Scientific Experiments”. During this event he spoke about our country's participation in Global Mega Experiments and the opportunities for science and engineering students. During his talk, he discussed about the possible opportunities for students at the International Thermonuclear Experimental Reactor (ITER), the Facility for Antiproton and Ion Research (FAIR), Laser Interferometer Gravitational Wave Observatories (LIGO), the Thirty Meter Telescope (TMT), the Large Hadron Collider (LHC), the India-based Neutrino Observatory (INO) and the Square Kilometre Array (SKA). He also took the time to answer all the questions raised by the interactive audience.

# HIGHLIGHTS OF 2020

## IAEA Competition (February 2020)

The IYNS team under IYNS-NTO wing participated in the IAEA's 2020 International Essay Competition on Nuclear Security. The contest was a part of the IAEA's International Conference on Nuclear Security: Sustaining and Strengthening Efforts, which was held during 10 to 14 February, 2020 in Vienna. For this competition, our team nominated two candidates who are currently pursuing their PhDs in Nuclear Security: Ms. Deeksha Gupta (TU Dresden) and Ms. Annesha Karmakar (Indian Institute of Technology, Kanpur).



## INTERNATIONAL YOUTH NUCLEAR CONGRESS, Sydney (March 2020)

IYNS, together with the Japan Young Generation Network (AESJ) and the Philippine Young Generation in Nuclear co-hosted the I4N (Innovation 4 Nuclear) Asia-Pacific competition at the International Youth National Congress in Sydney. The aim of this competition was to reward innovative ideas focused on nuclear technologies or applications from the young generation in Asia and enhance visibility of these ideas. One of the finalists of the competition was Ms. Priyanka Manoj Jawale, who is currently working on Outer Space Liability and Use of Nuclear Substances: International and National Law and Policy.



## Webinar on the "LATEST TRENDS IN THE NUCLEAR REACTOR INDUSTRY" Amity University (April 2020)



The President of IYNS Dr. Nitendra Singh was invited to deliver a lecture on the new updates in the nuclear reactor industry. He spoke about GEN IV nuclear reactors, new safety standards, how to upgrade existing reactors and make them more safe. He also spoke on SMRs and their applications in remote areas and also how they could be implemented.



An international webinar series titled 'Glimpses of Future Prospects & Opportunities in Science and Technology' was organized in collaboration with Poornima University, Jaipur from June 1-5, 2020. The five-day webinar series had lectures by distinguished speakers from France, India, Israel and UAE, who touched upon various topics of science and technology and aimed at educating the audience about the advancement and applications in the following areas:



Dr. Nitendra Singh

### Science & Engineering applications: Before and After Covid-19

Delivered by **Dr. Nitendra Singh**, this lecture sheds light on how science directly affects our day to day life and how the Pandemic affected the ongoing global R&D efforts. He also spoke about how the focus would change from setting major goals to more realistic, socially driven targets.



Ms. Upvita Pandey

### Medical Physics: A Bridge Between Medicine and Physics

In this lecture, **Ms. Upvita Pandey of Modawina Medical Equipment Trading Co. (UAE)** discussed about how two different fields of science i.e Physics and biology can be brought together to benefit human kind. She gave an overview of medical physics, the various technologies used in this field and career path for the same.



Dr. Arvind Kumar

### Advanced materials for Advanced Technologies

This was a two-part lecture, delivered by **Dr. Arvind Kumar (CLM Roorkee, Haridwar)** and **Dr. Prajith Karadan (Hebrew University of Jerusalem, Israel)**.

**Dr. Kumar** discussed about the advanced hybrid nanomaterials for smart room sensing technology. The talk focused on the application of these materials in room temperature gas sensors for environmental monitoring. He also spoke about triboelectric materials and its application for advanced self-powered gas sensing systems.



Dr. Prajith Karadan

**Dr. Karadan** talked about the advanced nanomaterials for molecular and biosensor applications, Metal-semiconductor hybrids, Bio-molecular sensor, Plasmonics, etc.

This webinar enlightened the students on the development in material science that led to the development of advanced materials capable of acting as a power back-up as well as a power source.



Dr. Nikhilesh Iyer

### Chemistry: from Labs to Industries

This lecture was delivered by **Dr. Nikhilesh Iyer (Scientist, BARC)**. Dr. Iyer discussed about the role of chemistry as the central science and the journey from lab chemistry to chemical engineering (Past, Present and Future). His talk focused on metal extraction, e-waste recycling, plastic recycling and graphene nanotechnology. He encouraged the students to overcome the fear of Chemistry by using novel learning methods and educational tools.

### 3D Printing – A Revolutionary Technique for Advanced Applications

This lecture was delivered by **Dr. Nitendra Singh**, who gave the students an introduction about the 3-D printing technology. He discussed the various techniques of 3-D printing and their working methodology. The lecture ended with Dr. Singh explaining the students the different applications of 3-D printing.



### Of(f) The Track Interview with Ms. Ekta Bhandari (July 2020)

Dr. Nitendra Singh was invited for an informal live session on Instagram by Ms. Ekta Bhandari (@ekizee) on July 4, 2020. The session was a part of Ms. Bhandari's Of(f) The Track Interview series. During the talk, Ms. Bhandari and Dr. Singh talked about his life as a scientist, India's present situation as a nuclear state, the importance of science and much more.



### Asan Vigyan Citizen Science Webinar (July 2020)

IYNS collaborated with Asan Vigyan foundation to conduct a webinar on "3-D Printing our way to the future" on July 11, 2020. During this interactive session, the IYNS President and Dr. Nikhilesh Iyer (Founder, Asan Vigyan) discussed about the basics of 3-D printing, the current trends and the future applications of the technology. The special focus of this webinar was the applications of 3-D printing for solving the present day problems in the housing and food sector.

**3D PRINTING ... WHAT IT IS ?**

- 3D Printing is a form of **Additive Manufacturing** or **Rapid Prototyping**.
- Its unique in its way by adding **layer upon layer** to build an object as opposed to subtractive manufacturing where the object is built by breaking down a component.
- 3D Printing uses a CAD model and slices the object into layers. It then adds these layer by layer to build the object.

**Stereolithography (SLA)**  
Uses a point laser to cure a photopolymer resin

**Digital Light Processing (DLP)**  
Voxel approach - uses a digital light to flash a single image of each slice

**Materials:** Photopolymer resin (Standard, Castable, Transparent, High Temperature)

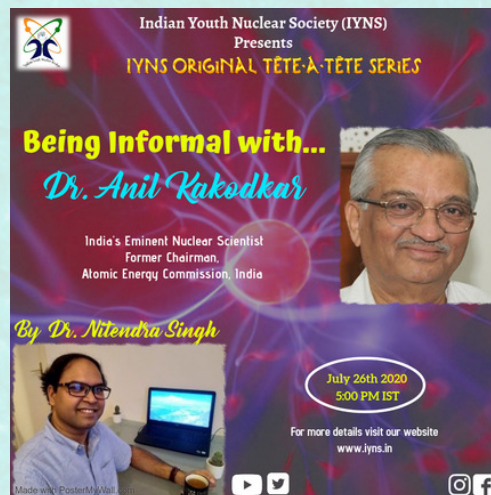


# WHAT'S NEW IN IYNS?

## Getting to know our scientists better..

The IYNS team has come up with a new chat show - "Being Informal with.." that invites eminent scientists. Our goal is to conduct a live session on our YouTube channel every month and bring to you the great scientists from our proud nation.

As the name suggests, the talk will be informal and very casual. Through this live session, we will bring to you their non scientific/technical side along with their experiences, life lessons and their advice. Currently, the show is to be hosted by our president Dr. Nitendra Singh.



Our first guest for the show is **Dr. Anil Kakodkar**, who is the former Chairman of the Atomic Energy Commission of India. A recipient of Padma Vibhushan (2009), Dr. Kakodkar was a part of the Pokhran test and played a major role in India's nuclear tests asserting sovereignty. Furthermore, Dr. Kakodkar champions India's self-reliance on Thorium as a fuel for nuclear energy. To know more about Dr. Kakodkar, we invite you to visit <https://www.anilkakodkar.in/>

We invite all our followers to actively participate in the sessions and also bring them the opportunity to ask their own questions to our guests by posting them on our website <http://iyins.in/being-informal-with/>

## Keep an eye out for the Nuclear News!

Starting **this July**, the IYNS team has decided to launch our monthly newsletter "**Nuclear News**". Compiled by our editor-in-chief Dr. Vaishnvi Tiwari, each of our upcoming issues will cover the IYNS events of the month, new articles, blogs and a glimpse of the events planned for the upcoming month.

## Reaching out to the Land of the Seven Sisters...

This is our first outreach event in the North-Eastern Indian territory and we are positive about establishing and expanding our network!

IYNS and the **University of Science and Technology, Meghalaya** are working together to organize an interactive session with the research scholar level students from different disciplines, who are enthusiastic about nuclear energy and would like to know more about Nuclear Technology. The session will be held in August 2020, via online platforms. Stay tuned for more details..

# REACH OUT TO US!

Join us to help our cause to support Nuclear Energy!

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



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



<https://www.facebook.com/YouthIYNS/>



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



<https://twitter.com/YouthIyNs>



<https://www.linkedin.com/in/indian-youth-nuclear-society-iyns-06b816187/>



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

