



# THE INDOORS

Society for Indoor Environment (SIE)

Quarterly Newsletter | Vol - 3 Issue - 1 | July - September, 2021

COVID-19

Life Revind

## Back to Normalcy?

Is It safe to move at public spaces



**THE EARTH HAS ENOUGH PROBLEMS ALREADY**

**CONTROL YOUR  
CONTRIBUTION**

**WHERE YOU CAN**





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# Presidential Note



**PROF. ARUN  
KUMAR SHARMA**

President, SIE



**Stay Home Save Lives**

COVID-19 has been occupying rightly the space in our minds as well as in all possible media and discussions. From its monstrous presence to its killing abilities and devastating waves.

On after another, from one country to another, fortunately we have move to vaccines, declining number of new cases and significant reduction in fatalities. We have started to breathe easy. Public spaces are opening up, footfalls are increasing. Good signs for mental health of individuals and economic health of nations

**IT ISN'T OVER TILL  
IT'S OVER!**

**WE NEED TO BE MORE  
PROACTIVE AND  
INNOVATIVE IN  
EDUCATING THE  
CITIZENS ABOUT  
KEEPING OUR AIR AND  
WATER CLEAN**

But, just like in Cricket, it isn't over till it's over. The latest information is rising number of cases in West Bengal after the Durga Puja festivities. And still high incidence in several countries across the world. Now there is sufficient evidence about the transmission of CSARS CoV-2 being airborne and infection spreads more through inhaled air than contaminated surfaces.

Therefore maintaining our environments, both indoors and outdoors, safe for ourselves is as much a need now as it was during the disastrous second wave. The complacency at this stage may prove costly one more time. In fact, we need to be more proactive and innovative in educating the citizens about keeping our air and water clean, to ward off the evils of COVID-19 and Dengue respectively.

This lull in infection rate should be utilized as an opportunity to educate people about keeping the environments clean, experiment with new technologies to rapid purification of indoor environment and recycling of solid as well as organic waste.

At SIE, we are committed to do our bit in this awareness campaign about cleaner environments and I appeal to all of you to join hands with us and help in achieving a COVID-19 and Dengue free society.



WHO BRINGS THE NEWS FOR YOU!



# BACKSTAGE HEROES

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## DR NEELIMA GUPTA

Professor in Community Medicine,  
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## After Effects of Covid- 19

Coronavirus disease 19 (COVID-19) is the disease caused by Severe Acute Respiratory Syndrome Corona Virus-2 (SARS-CoV-2), mainly affecting the respiratory system. Globally, as on 20th September 2021, there have been 228,394,572 confirmed cases of Covid-19.

In India, from 3rd January 2020 to 20th September 2021, there have been approximately 3 crore 35 lac confirmed cases of Covid 19 (1). The World Health Organisation declared Coronavirus pandemic in March 2020 and since then this pandemic has wreaked havoc all over the world.

Over the course of the pandemic, a lot of research has focused attention on the acute effects of Covid, its signs and symptoms, associated co-morbidities and management of patients.

Now many patients are presenting with persistent, recurrent or even new onset symptoms four or more weeks after suffering from acute Covid 19, indicating multisystem involvement and having a significant impact on the quality of life of these patients.

It is becoming clear that many patients are suffering from long term after effects of Covid and the persistent symptoms are having an adverse effect on the mental health of the individuals (2).





These post-covid conditions are being referred to by a wide range of names, including long COVID, post-acute COVID-19, long-term effects of COVID, chronic COVID and long-haul COVID (3). Persistent post-COVID syndrome, also referred to as long COVID, is a pathologic entity, which involves persistent physical, medical, and cognitive sequelae following COVID-19, including persistent immunosuppression as well as pulmonary, cardiac, and vascular fibrosis (4). These post-COVID conditions can occur in patients who have had varying degrees of illness during acute infection, including those who had mild or asymptomatic infections. All age groups can suffer from these post-covid conditions.

The most commonly reported persistent symptoms after covid are shown in the box (3)



- Increased respiratory effort
- Fatigue
- Post-exertional worsening of symptoms
- Brain fog,\* or cognitive impairment
- Cough
- Chest pain
- Headache
- Increased heart rate
- Joint and muscle pains
- Paresthesia
- Abdominal pain
- Diarrhoea
- Insomnia and other sleep difficulties
- Fever
- Light headedness
- Impaired daily function and mobility
- Pain
- Skin Rash
- Mood changes
- Smell and taste abnormalities
- Menstrual cycle irregularities

A study has reported that 87% of people discharged from a Rome hospital were still experiencing at least one symptom 60 days after the onset of Covid19 and 55% had three or more symptoms including fatigue (53%), difficulty in breathing (43%), joint pain (27%), and chest pain (22%) with 40% saying it had reduced the quality of their life. (5)

In a large systematic review, the included studies defined long COVID as ranging from 14 to 110 days post infection. 80% of the infected patients with SARS-CoV-2 were estimated to have developed one or more long-term symptoms. The five most common symptoms were fatigue (58%), headache (44%), attention disorder (27%), hair loss (25%), and dyspnea (24%). 19 percent patients had persistent joint pains (6).

Since the commencement of the pandemic, various drugs such as antivirals, antibiotics, hydroxychloroquine, corticosteroids have been used in the management of patients. Corticosteroids were found to have a life saving role in the management of covid. However large-scale use of corticosteroids lead to a resurgence of Covid associated mucormycosis. Another complication that the doctors are anticipating is the increase in patients presenting with avascular necrosis of the bone or "bone death". It is important to recognise this complication early so that morbidity and surgery can be avoided (8). If the patient complains of hip and thigh pain after covid and with history of receiving steroids then an MRI can be advised which can pick up the necrosis of the bone early. Patients can present with any of these symptoms and at times it is difficult to clearly diagnose it as post-covid condition. Before labelling it as long covid other possible reasons for the symptoms should be investigated. Patients suffering from post-covid conditions frequently suffer from symptoms of depression, anxiety and mood changes because of the disease and the associated social isolation with the diagnosis of the disease.

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**GUIDELINES**



## MR BARUN AGGARWAL

Founder & CEO  
BreatheEasy Consultants Pvt Ltd

WHY ARE THE  
NEW GLOBAL AIR  
QUALITY  
GUIDELINES  
PUBLISHED BY  
**WHO** IMPORTANT  
AND HOW DO  
THEY IMPACT US?

After a full 15 years, **WHO** - The World Health Organisation has published new guidelines for Air Quality exposure. They have recommended that the concentration of PM2.5 be halved in the world's air, from the current guideline of 10 micrograms per cubic meter to 5 micrograms per cubic meter.

And this reduction from 10 to 5 will save Millions of lives. Now let us put this in a little perspective. The average PM2.5 exposure in India is over 100 micrograms per cubic meter. In most urban centres of Delhi, Kolkata, Hyderabad, Bangalore and Mumbai, with development and growth, pollution levels have risen and exposure to this harmful PM2.5 has also risen. In winter months, the levels of this harmful pollutant can go as high as 300-400 micrograms per cubic metre of air.



Most people do NOT understand the impact of this on their health and mortality and because this pollutant is invisible, it makes it even harder to take action against it.

Also, the Indian standards are a lot more lax as compared to these stringent global guidelines and typically, we rarely even meet the upper limits of our standard on a good air day in urban India.

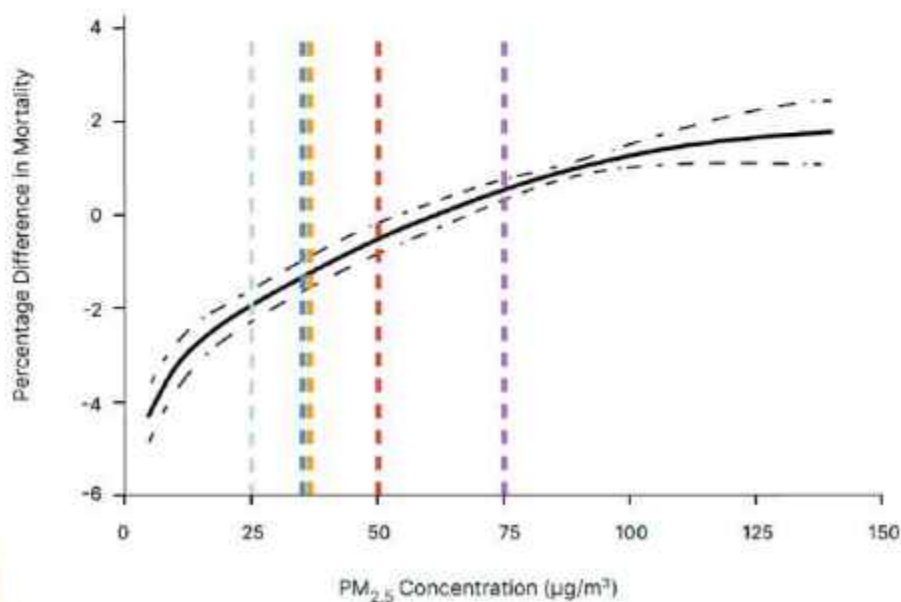
So the science is clear - even bringing the PM levels down from 10 to 5 will have a big impact from a health perspective and save millions of lives globally. Does this mean that bringing it down from 150 micrograms per cubic metre to say 50 micrograms will help? As an interim goal, for the country, this will be an important first step. However, from an individual exposure perspective, the science is clear - unless one is able to bring their exposure to BELOW 10 micrograms, their risk levels are quite high and the difference of health outcomes between exposure of 25 micrograms and say 150 micrograms is marginal. But the difference of health outcomes between 25 micrograms and 10 micrograms is large.

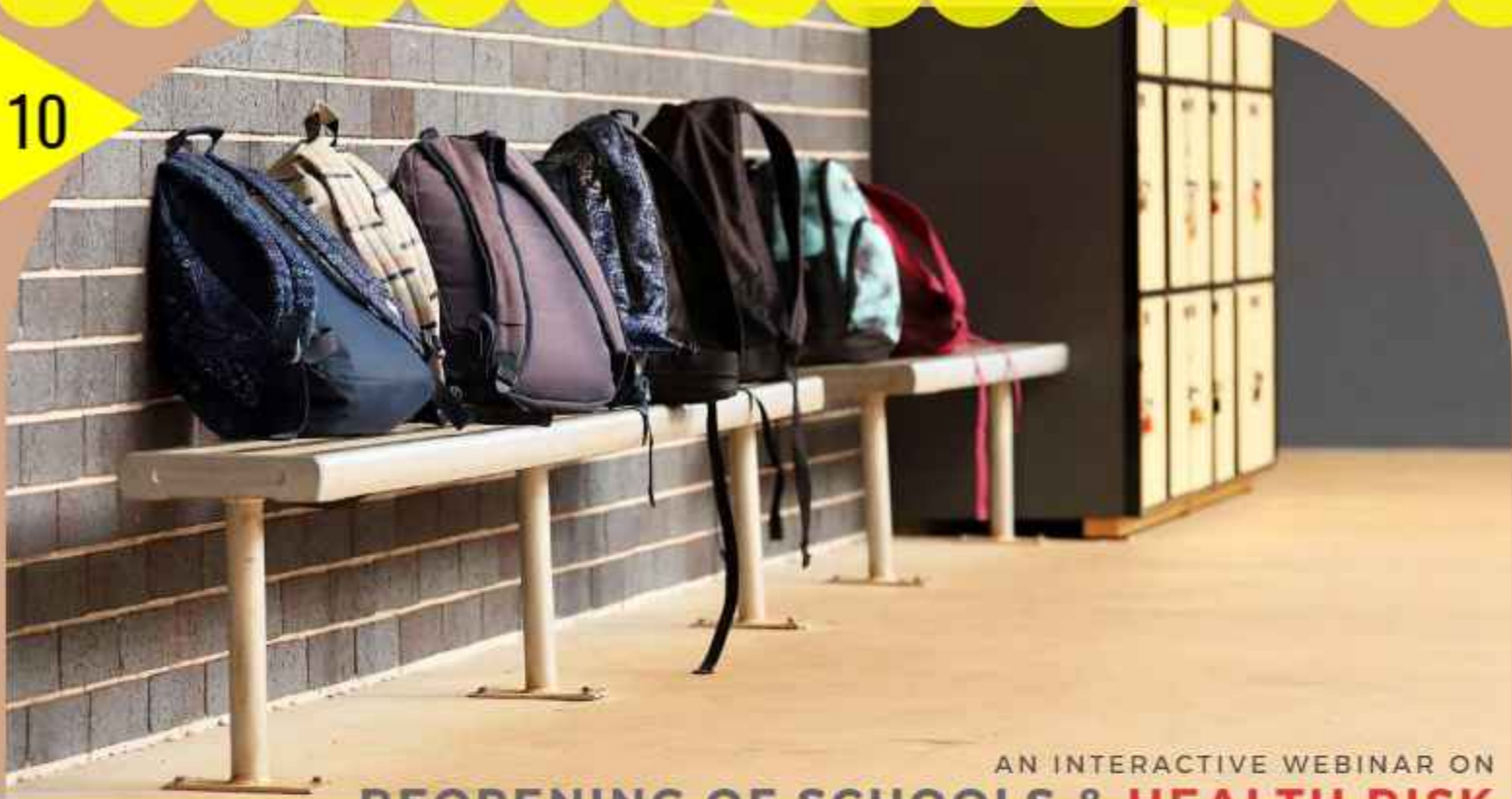
Hence, one will see a clear benefit by bringing their exposure to below 10 micrograms per cubic metre. And bringing it down from 10 to 5 will help even further.

A large source of indoor PM<sub>2.5</sub> pollution in urban centres is the outdoor air. So what can one do to bring this level of pollutant down to levels of 5 micrograms per cubic metre of air? Is this even possible in our polluted cities? Can the air purifiers available in the market solve this problem? So - yes - it is possible and - No - the commercial air purifiers on the market cannot solve this problem. In fact, most of these machines are not only unable to solve the problem of bringing PM down to 0.5 but they also are unable to solve the CO<sub>2</sub> problem. Another issue that most people are unaware of. We breathe in Oxygen and breathe out Carbon Dioxide (CO<sub>2</sub>). In a room, overnight, with doors and windows closed, the CO<sub>2</sub> levels typically go very high one wakes up feeling lethargic and tired. The first instinct is to open the windows and door for fresh air to come in. If we were able to get fresh air from outside and clean it up completely of the 'outdoor pollutants', then it would solve all the problems. After years of searching for the right solution, we have been able to get the PM levels in our indoor spaces (home, office, car, etc) down to ZERO micrograms per cubic metre. One needs a more holistic solution that can take care of the ingress of polluted air due to leaky doors and windows with poor quality construction. This can be done with slight positive pressure and cleaning the outdoor air at source before bringing it into the occupied space.



### Can the air purifiers available in the market solve this problem?





AN INTERACTIVE WEBINAR ON  
**REOPENING OF SCHOOLS & HEALTH RISK**  
 DUE TO COVID 19

The aim of conducting an interactive session was to educate the school/ college management about the **different features of indoor environmental quality, the risks associated with reopening**



SIE being the foremost source of information on indoor environmental quality, exposure and its impact on human health had planned an interactive webinar series with the teachers, administrators and staff of schools/colleges from across India.

It was a first of its kind webinar conducted with fraternity of schools/ colleges in India while the notices of reopening of schools/ colleges have been released from education departments, Govt. of India. The event was conducted online on 30th August, in which senior faculty, administrative staff and principals of more than a dozen of schools and colleges had participated. The aim of this webinar was to educate the school/ college management about the different features of indoor environmental quality, the risks associated with reopening of them due to COVID 19 exposure and the required mitigation strategy.

Dr. Mukesh Khare and Dr. Harsha Kota, Professors at IIT Delhi and also the members of SIE created awareness amongst the fraternity about the different aspects of indoor environment, the mechanism of exposure to COVID 19 in classrooms and what measures could be taken to prevent the exposure. They also discussed about the strategy to reopen the education institutes with multilevel coordination, i.e. at school level, state level as well as on national level. The essential actions needed to be taken for reopening the schools/ colleges with preparedness for resurgence were also discussed in detail.



The session was moderated by **Dr. Priyanka Kulshreshtha, Joint Secretary**, and convened by **Dr. Radha Goyal, Secretary, SIE** with closing remarks by **Dr. Sunil Gulia, Executive committee member, SIE**

**Thank You Team,  
& Participants!**

We are grateful to you all for putting this important subject on table.

Continuing further, the session on health risks associated with the reopening of schools was discussed by Dr. Arun Sharma, Director, ICMR- NIIRNCD, Jodhpur and President, SIE. He had detailed discussion on the guidelines and measures suggested by the government to reopen the school to make them more clear to the school management/ fraternity. In both the expert's discussion, major emphasis was given on maintaining the adequate ventilation in the classrooms along with following the measures/ guidelines suggested by department of education, Govt. of states/India. Transport micro-environments, like school buses/ vans and the safety protocols related to the COVID-19 were also discussed in detailed.





PROF. MUKESH KHARE

Patron, SIE

“Classrooms with adequate ventilation will be able to ensure minimal risk of virus transmission.”

GLIMPSES

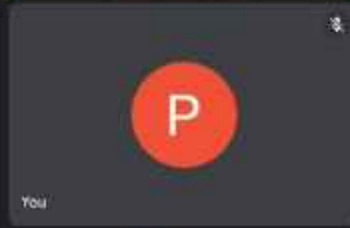
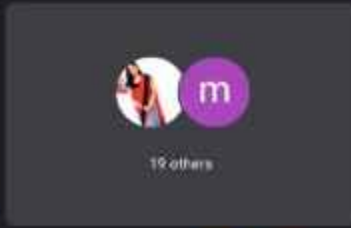
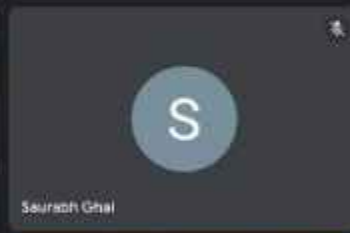
At National Level

- To adapt and disseminate **health education messages**
- Establish a committee for **continuous monitoring and evaluation**
- **Update protocol** on remote education support in the eventuality of an increased number of cases
- **Update national plan on resurgence preparedness (BAP)**

Strategy to Open Schools : Multilevel Coordination



meet.google.com/ku-jpez-nal



In-call messages

country... what is R1 value??

Nishi Dewan 5:10 PM  
Thanks a lot. Very informative and well session.

jyotana gupta 5:10 PM  
Very informative session. Thank you a

You 5:10 PM  
very informative session, Thank you

minnie sand 5:11 PM  
Thank you for a very informative sessi

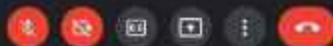
C J 5:11 PM  
Thank you for an informative session

Dr. Sarita Tripathi 5:11 PM  
Thanks a lot for interactive session.

Raj Kumar Pat 5:11 PM  
Thank you

Send a message to everyone

Interactive Webinar on "Environmental and Heal...







DEPARTMENT OF CHEMISTRY, ST. JOHN'S COLLEGE, AGRA  
& SOCIETY FOR INDOOR ENVIRONMENT, NEW DELHI



# ONLINE NATIONAL SEMINAR ON ENVIRONMENT HEALTH AND SUSTAINABLE DEVELOPMENT

On 15<sup>th</sup> September 2021, Time at 12:30 pm

Patron

Chief Patron

Convenor



**Prof. S. P. Singh**  
Principal,  
St. John's College, Agra



**Rt. Rev. Dr. P. P. Habil**  
Chairman Governing Body,  
St. John's College, Agra



**Dr. Susan Verghese P.**  
H.O.D. Chemistry,  
St. John's College, Agra

Resource Persons:



**Dr. C. K. Varshney**



**Dr. Ashok Vajyan**



**Dr. J. S. Sharma**



**Prof. Anil Sharma**



**Dr. Rakesh Kumar**

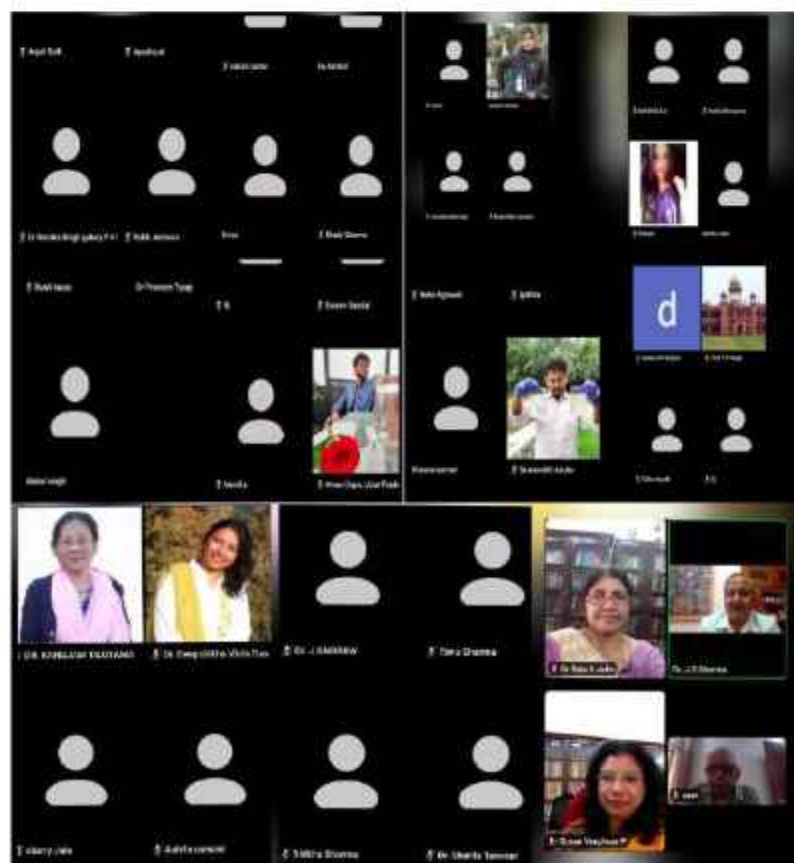


**Prof. Ajay Taneja**

**Co-Convenors:** Dr. Raju V. John, Dr. Mohd. Anis,  
Mr. Praveen Tyagi, Mr. Ram Kumar Saraswat, Dr. Padma Malika K. Hazra,  
Dr. David Daneesh Massey (Secretary, SIE Agra Chapter),  
Dr. Mahima Habil Massey (Treasurer, SIE Agra Chapter)

**Dr. Radha Goyal**  
Secretary (SIE),  
Deputy Director, Indian Pollution Control Association (IPCA)  
**Dr. Priyanka Kulshreshtha**  
Joint Secretary (SIE), Assistant Professor, Delhi University

## A COLLABORATIVE SEMINAR ON ENVIRONMENT, HEALTH, AND SUSTAINABLE DEVELOPMENT



Department of Chemistry, St. John's College Agra organised an online interactive national seminar on Environment, Health and Sustainable Development on 15<sup>th</sup> September, 2021 at 12.30 pm in association with Society for Indoor Environment, (SIE), New Delhi.

Rt. Rev. Dr. P. P. Habil, Chairman, Governing Body of the college and Bishop of Agra Diocese inaugurated the seminar and blessed the seminar with the word of prayer. Prof S P Singh, Principal & Patron congratulated Chemistry department for conducting the seminar. He motivated and supported the Chemistry department to organize the same.

Dr Susan Verghese P, Head, Department of Chemistry, Executive Advisor Agra Chapter (SIE) talked about the need for awareness of environmental consciousness, significance of sustainable development and also introduced the key note speaker Prof C K Varshney.

Prof Ajay Taneja, a noted alumnus of St. John's College, Agra Dean Research and HOD Chemistry, Dr. Bhim Rao Ambedkar University, Agra, President Agra Chapter (SIE) introduced the theme "Environment, Health, and Sustainable Development and spoke about the need for protection of environment for our future generations.



*There is a need of an hour for spreading awareness about environmental consciousness, significance of sustainable development & protection of environment for our future generations.*

**Prof Varshney** concluded the sessions with Chair Person's remarks. He has recommended the following for a sustainable healthy environment-

- > To achieve sustainability, a considered amount of innovation, thinking as well as hard work and capital is needed.
- > We need to have certain amount of commitment to really see that we have long-term plans which are not really blocked by policy constraints. Therefore, the policy improvement and alignment is very necessary.
- > India has to be really mindful about the industrialisation and economic development that are envisaging for uplifting the masses in terms of their health and well-being.
- > Toxic elements like lead must be eliminated from the environment which will add to a global health.
- > We need to have conservation agriculture to stop the carbon emission from agriculture which liberally contributes to CO<sub>2</sub> emission.
- > He emphasised on using mixed-cropping or multi-cropping system in order to reduce crop failure risk and also preventing need for chemical fertilizers. It increases the profitability of the farmer, reduces the input cost and improves the soil health.
- > We have to reduce our habit of consumerism and not to move on the path the west have really moved
- > Wood to hydrogen fuel switching is necessary for environmental health and sustainable development.

**Dr C. K. Varshney - KeyNote Speaker**, spoke at length about the ecosystems which are vital for sustainable development. He explained about the complexity of ecosystems as well as resources on which human kinds depend such as food, fresh air to breathe, safe water to drink. He defines ecosystem as a system consisting of all living thing that functionally interact with each other and with their physical environment.

**Dr Ashok Balyan** delivered a valuable and informative talk on "Environment health and sustainable development: Focus on energy". Transition." He raised the issue of scarcity of resources and global economy that is out growing the capacity of earth. He raised questions like how do we respond and how quickly we can respond to these issues. He discussed the framework of sustainable development and emphasize on responses of both government and societies. He talked about green economy as a development strategy which harmonises both economic development and ecological sustainability.

**Dr J. S. Sharma** delivered an interesting talk on the need of the hour topic "Global quest for net-zero emission-its implication to India." He discussed about the climate change and increment of global temperature. He emphasised on the need of stabilising the global temperature and achieving the goal of at least net zero entropy emissions of CO<sub>2</sub>. He concluded that the climate problem will be solved when everyone stops burning fossil fuels and stops cutting forest.

**Dr Rakesh Kumar** delivered an enlightening talk on "Green manufacturing for sustainable Development". He spoke about the problems and issues human race & flora and fauna are going to face in the next 50 years. He advised to manufacture sustainable tools: follow good practices and design new product for sustainability. He further discussed the technological challenges and opportunities for sustainable manufacturing



More than 200 participants benefited from this seminar.

Later in the session **Dr. David Daneesh Massey**, Assistant Professor Chemistry, Secretary Agra Chapter (SIE) expressed the vote of thanks. **Dr Raju V John**, **Dr Mohd. Anis**, **Mr. Praveen Tyagi**, **Mr. Ram Kumar Saraswath**, **Dr Padma Malika Hazra**, **Dr. Mahima Habil Massey**, Treasurer, Agra Chapter (SIE), **Dr. Shahla**, **Ms Sonam Sandal**, **Ms Swati Rathi** and **Ms Anushta Bhardwaj** were also present.





**SIE**



HAPPY

*Diwali*

ECO - FRIENDLY

**SIE Team wishes you warmth, love, and  
light this Diwali and all year long.**

Plant a tree this Diwali not burst crackers. Let's pledge for pollution-free Diwali!





Ventilation | IEQ | Energy Savings

# COVID SAFETY REMINDERS



LEARN HOW TO STAY SAFE INSIDE YOUR HOME TOO



CONTACT US FOR VARIETY OF COST EFFECTIVE & EASY TO MAINTAIN IAQ SOLUTIONS

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