

Celebrations

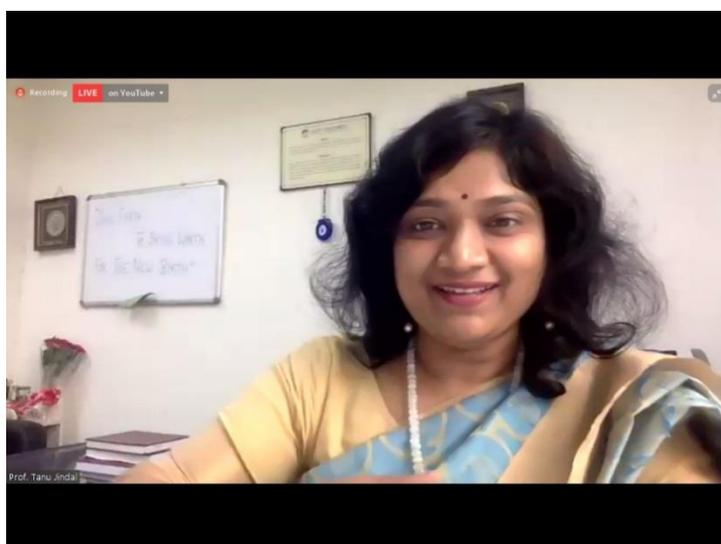
World Environmental Health Day, 2021

Webinar on 'Environment, Climate Change and Impact on Human Health'

24th September 2021

A webinar was organized for celebrating 'World Environmental Health Day' in collaboration with the United Nations Environment Programme (UNEP) under the aegis of "Global Warming and Climate Change (GWCC) Cluster of Amity Universe with the vision of Honorable Founder President Sir Dr. Ashok. K. Chauhan.

The theme for 2021 World Environmental Health Day is "Prioritizing Environmental Health for healthier communities in global recovery. The webinar began with the welcome of the dignitaries and guests.



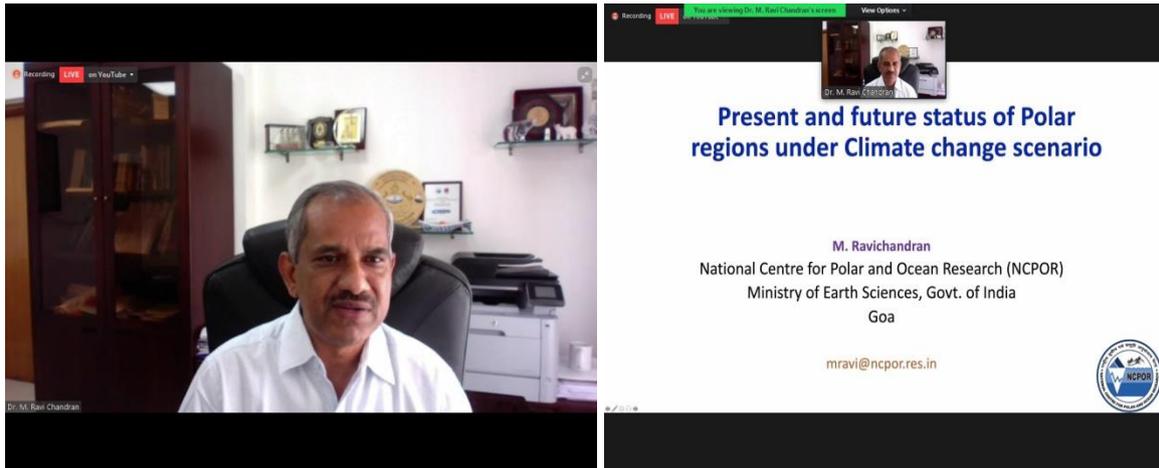
Dr. Smriti Shukla invited **Prof. Tanu Jindal** to give the welcome address. She briefed about the theme of the webinar and shared her views. She talked about the "Amity Global Research Hub", which is established in Long Island, New York. She gave an overview of the "Global Warming and Climate Change" (GWCC) cluster and the various projects submitted by the Faculties for research on Environmental issues. She also talked about Amity's collaboration with various national and international organizations and the projects completed from DST, MoEF&CC and MoES etc. She shared priority areas in Environmental academic programmes and institutes. Mentioning the Ambient Air Quality Monitoring station at Amity. She mentioned about higher level of ozone during lockdown and assessment for health impact. She also talked about various events organized by the Institutes of the Natural Resources and Environmental Sciences (NRES) Domain.



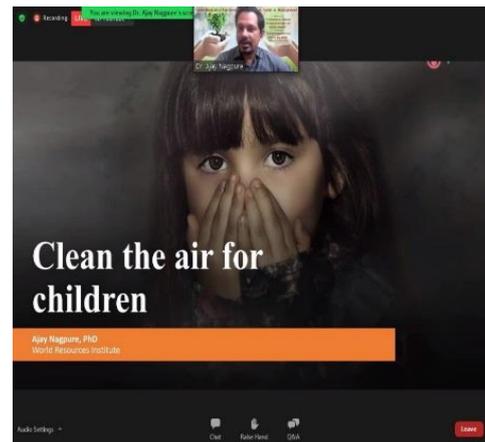
The first speaker of the webinar was **Mr. Atul Bagai**, Country Head for United Nations Environment Programme's (UNEP) India Office. He mentioned that the decade 2021-2030 has now become the decade of ecosystem restoration. He said that it is very important for all of us to make peace with nature. He has also said that glaciers all over the world are melting rapidly, enough to raise the sea level by several hundred meters. Increase in sea level will in turn cause extensive flooding. The poor people will be the most impacted by such natural disasters. He explained that human health and environmental health are closely linked through the food we eat, the air we breathe, the water we drink, and soil on which crops are grown. According to a WHO estimate of 2012, 20 percent of deaths worldwide were due to environmental problems. He said that the WHO has issued some fresh guidelines on air pollution. Major negotiations were also held on the conservation of biodiversity. He also explained the importance of 'One-Health Approach', according to which the health of humans, health of environment and health of animals are all connected. Sustainable development must be achieved in order for the "One-Health Approach" to be successful. He then talked about India's efforts to solve such environmental problems. The "National Action Plan" on "Climate Change" was launched in 2008 in an effort to combat the climate crisis. In June 2019, the Environment and Health sharing Committee was formed. Towards the end of his talk, he said that there is a very strong connection between environment and the health of all living organisms. Improving the quality of the environment reduces the chances of spreading of diseases, thus improving human health. He finally concluded by saying that immediate steps need to be taken to combat climate change and thanked Amity University for opportunity to speak in the webinar.



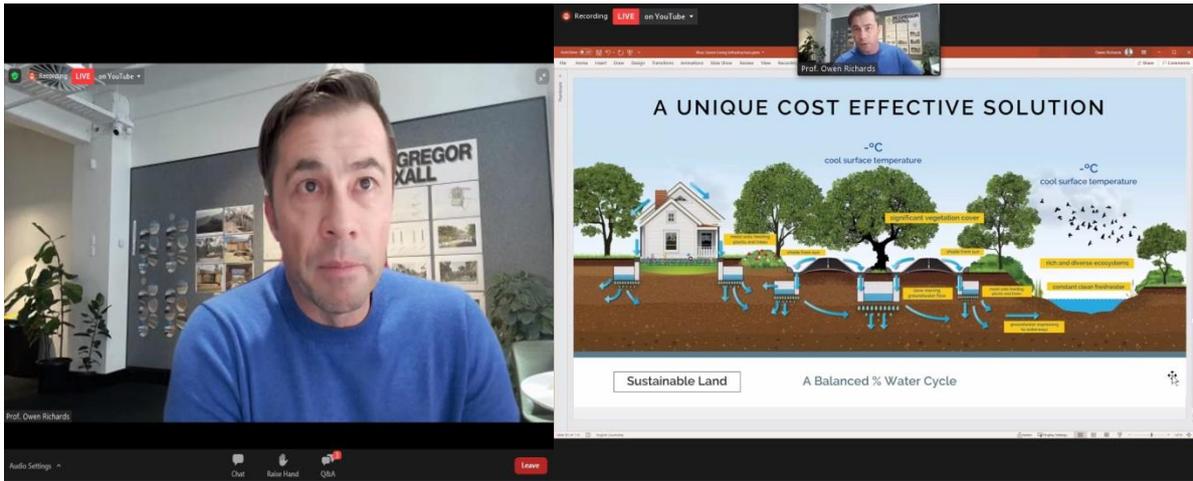
The second speaker was **Dr. Aditya Narayan Singh**, Additional Director (O)/Scientist E, Ozone Cell, Ministry of Environment, Forest and Climate Change, New Delhi. He started discussing about how climate change is contributing to melting of glaciers, which, in turn is causing sea levels to rise. He also talked about how the frequency of extreme weather events was increasing. Climate change is predicted to cause around 2.5 lakh deaths per year from 2030-50. Thus, we need to significantly reduce the greenhouse gas emissions into the atmosphere. He then talked about what are Ozone Depleting Substances. The ozone layer is a thin layer of gas covering the earth, present in the stratosphere. Ozone layer protects all life on Earth from the harmful effects of UV radiation by absorbing the UV radiation. He talked about the processes causing the natural formation and destruction of ozone, which is essential to maintain optimum concentration of ozone in the stratosphere. Chlorofluorocarbons (CFCs) released into the atmosphere release chlorine free radicals. One chlorine free radical is capable of destroying lakhs of ozone molecules. Effects of ozone layer depletion include death of marine life forms, crop damage, cataract in eyes and skin cancer. He also talked about the various treaties formulated to prevent ozone depletion, such as the Montreal Protocol. Around 96 chemicals were identified as Ozone Depleting Substances. Many Ozone Depleting Substances were phased out by India in 2010. Hydrochlorofluorocarbons (HCFCs) are also ozone depleting substances with high Global Warming Potential (GWP). The HCFC Second Phase out Implementation Plan was enforced from 2017. The Kigali Amendment, which was the 8th Amendment to the Montreal Protocol aimed at phasing out HCFCs. There is a need to design effective implementation models to prevent ozone layer depletion. The HCFC's required for cooling purposes, which releases a lot of ozone depleting substances in the atmosphere, should be reduced from 2037-38. Towards the end of his talk, he also said that there should strict implementation of mitigation measures as soon as possible.



Dr. M. Ravi Chandran, Director, National Centre for Polar and Ocean Research (NCPOR), Goa was the next to follow. He started his talk by discussing about the importance of polar regions. As much as 75% of the world's freshwater is stored in the ice-sheets of Greenland and Antarctica. If all of these ice-sheets melt, it will cause a rise in sea levels by 70 meters. He also talked about the three poles, namely Antarctica, the Himalayas, and the Arctic. The first signal of global warming can be observed in the Cryosphere. Problems associated with the melting of ice include ocean acidification and ecosystem shift. Another major problem due to climate change is the warming of permafrost, which could result in a big jump in the greenhouse gas levels in the atmosphere, which would accelerate climate change even more. He also showed that sea-ice concentration were quite high in the Arctic during March. In September, the sea-ice concentrations were found to be very low in the Arctic. Currently, Antarctica is losing ice at the rate of gigatons per year, due to accelerated climate change. On the other hand, Greenland is losing ice at the rate of 280 gigatons per year, enough to raise sea levels by 0.8mm per year. He also showed that future predictions for Greenland indicate that there will be a 0.1m sea level rise in 2100. He then discussed about the Polar Vortex. When there is no melting of sea-ice, the Polar Vortex will lie at the center. However, when the sea-ice melts, the polar vortex spreads over the mid-latitude regions and sometimes even reaches till India, causing cold waves in those regions. He also threw light on the influence of Arctic sea ice on the Indian Monsoon. Melting of the sea-ice will cause an increase in the Sea Surface Temperatures (SSTs), which will result in increased rainfall in India. He also discussed about the effects of climate change if there is a 1.5^o Celsius or 2^o Celsius increase in temperature. The intensity and frequency of cyclones and other extreme events are expected to increase. A 1.5^o Celsius increase will pose a high risk to ecosystems, whereas a 2^o Celsius increase presents an even greater risk. Towards the end of his talk, he talked about the impact of climate change on human health, which include air pollution, changes in vector ecology, increasing allergens, negative effects on water quality, etc. He summarized his presentation in the end and concluded by saying that there is an urgent need for effective adaptation and mitigation strategies.



The fourth speaker was **Dr. Ajay Nagpure**, Head of “Air Pollution in the Sustainable Cities program” WRI India. He presented his views on the effect of air pollution on children. He began his talk by speaking about one of the most dangerous pollutants-PM 2.5. He explained how PM 2.5 is such a big risk factor for human health. He also talked about the various age groups affected by air pollution, which includes pregnant women, old age people, children, etc. As per 2019 data, 70 percent of the total deaths have been caused due to high air pollution. On examining the effects of air pollution in the early childhood stage, it was found that 60 percent of children in the age group of 0-6 years died due to air pollution. This goes on to show the severe impact of air pollution on children. He briefly talked about the difference between accidents and air pollution. He also presented a case study which was about a boy by the name of Vaibhav Sharma. This boy was unable to attend classes at school often due to chronic cough and breathing difficulties. He discussed about the various impacts of air pollution on children some of which are stunted lung growth, low birth weight, impaired mental and motor development and childhood cancer. He also discussed about a survey conducted in neighborhood of Delhi. The results of the study showed that majority of the children who had asthma lived near industrial areas. Infants are more susceptible to the adverse effects of air pollution since they absorb pollutants more quickly due to their high breathing rate and they stay close to the ground most of the time, where pollution levels are at their peak. He concluded his talk by giving some solutions to combat air pollution, some of which are: avoid smoking, walk for shorter distances, good ventilation in homes and children shouldn't be brought near highly polluted areas.



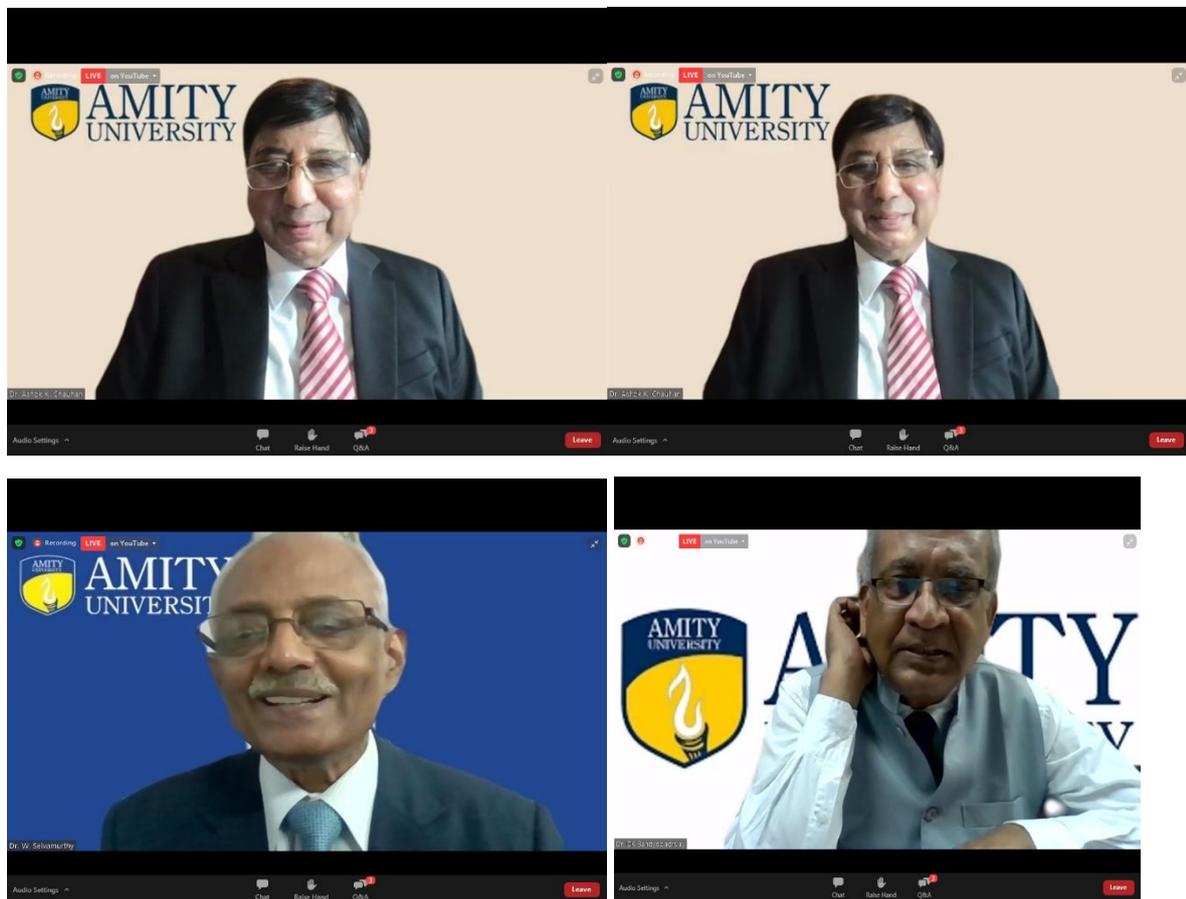
Prof. Owen Richards, Leader across the Asia Pacific Region in Decentralized, Sustainable and Resilient Civil Infrastructure, Integrated Water and Blue-Green Infrastructure spoke on how humans have progressed through the various ages, namely the Agricultural Age, the Industrial Age further entering into the Information age or Computer Age through advancements in technology. With the introduction of plastic items, we have now entered the Plastic Age. He then shared a video which showed climate change and its impacts, the working of the water cycle, deforestation and the various environmental problems associated with it. He also talked about the increasing problems associated with stormwater such as loss of habitat, loss of green cover, loss of life. The challenges to India in controlling stormwater drainage are lack of best practice stormwater management, lack of hydrological data. He then talked about the concept of Natural Sequence Farming and how we can reintroduce the natural water cycle in the urban environment. He threw some light on the importance of Source Control and also discussed the Snowflake Principle. Natural water cycle can be reintroduced into the urban environment by applying cost effective solutions, making landscapes more porous, bioretention infiltration system and a continuous aggregate inlet. He also talked about the Tree nurturing System, EnviroKerb. Towards the end of the talk, he also talked about the such projects being conducted in India, the UK, China and Saudi Arabia.



The last speaker of the event, **Mr. Himanshu Shekhar Mishra**, Senior Editor (Political & Current Affairs) New Delhi Television Limited (NDTV India) talked about Kerala Floods which occurred in August 2018 and how they were caused due to the opening of the gates of the dams. It caused nearly 500 deaths. The UN Secretary General has said that climate change was the main cause for Kerala Floods. The Ex- Meteorological Director General (retired) the same point and also added that there was an increase in the frequency and intensity of cyclones. It was also reported that there was an increase in the number of extreme weather events. He also presented a case study on Kashmir Floods of 2014, which was the worst flood to hit Jammu & Kashmir since 1902. It killed nearly 300 people left 2.5 lakh people homeless. He also talked about the massive destruction inflicted by these floods, the fear of an epidemic due to the dead bodies of animals floating on water. The number of climate-related disasters more than doubled in twenty years. These events caused the deaths of nearly 1 lakh people in India. The data collected by NASA on climate change highlights the seriousness of this issue. He also talked about the sufferings experienced by the poor people during natural disasters. A rights-based approach must be introduced to help these poor and underprivileged people. Toward the end of the talk, he also threw some light on the Union Home Ministry Report of 2011 which showed how poverty is linked to disasters.

Followed by the deliberations of all the eminent speakers, a panel discussion was conducted in which all the panelists gave many relevant views and recommendations that could be helpful to check climate change. The panel discussion included Dr. W. Selvamurthy, Prof. Tanu Jindal, Dr. DK Bandhopadhyay, Prof. Owen Richards, Dr. M. Ravi Chandran and Our Hon'ble Founder President Sir. Dr. W. Selvamurthy gave his speech on the importance of the topic and he mentioned some of the researches ongoing in the University relevant to the topic. He also shared a motivating slogan stating 'Adapt, slow down, fulfill' to mitigate the climate change problem. After that the Honorable Founder President Dr. Ashok K. Chauhan share his views on the topic and how global warming and climate change has become a major problem for the earth now. He also directed Dr. Selvamurthy to share his views on the roadmap for mitigating the climate change issue in the form of a booklet. Prof. Owen Richards shared his views on Climate resilience: how the problem should be solved at the source itself and also about Green in infrastructure. He explained some of the major challenges faced by India. He also gave a brief about water sensitive urban design, triple bottom line sustainability Framework, etc. After that Dr. M. Ravichandran shared his views on the melting of glaciers in polar regions. He

explained the importance and role of polar regions in influencing the climate in other parts of earth. Simultaneously, some other panelists also shared some more views on the same.



Just after the panel discussion, names of the winners of the poem writing, article writing and poster-making competitions conducted during celebration of World Ozone Day were declared.



The webinar ended with vote of thanks by **Dr. Abhishek Chauhan** to all the people involved in making the webinar a success.

