

# Report on “Vigyan Par Charcha” Session-03

**Speaker:** Dr. Sanjay Kumar Singh  
IIT Indore

**Date:** January 27, 2021

**Faculty organizers (IIT Indore)**

Dr. Niraj Kumar Shukla

Dr. Ashisha Kumar

Dr. Mrigendra Dubey

**राष्ट्रीय आविष्कार अभियान**  
भारतीय प्रौद्योगिकी संस्थान इंदौर  
प्रस्तुत करता है  
**विज्ञान पे चर्चा - अधिवेशन ३**  
**“वायु प्रदूषण”**  
**आओ मिलकर समझें**

**27 जनवरी 2021**  
**सांय 4 बजे से 5 बजे तक**  
**YOUTUBE LINK:**  
**<https://youtu.be/YgyIcQ94B10>**

**SPEAKER :**  
**DR.SANJAY KUMAR SINGH**  
**IIT INDORE**

एक भारत श्रेष्ठ भारत  
विद्यार्थी विभाग  
भारतीय प्रौद्योगिकी संस्थान इंदौर

**Rajya Shiksha Kendra, Bhopal**

Dr. Ravendra Prasad Tripathi



Supports from other members of  
IIT Indore:

### Students Team:

Krishna Kumar  
Mukul Bahedia  
Naxshatram Shreyas

### Others:

Mr. Lalit Jain  
Mr. Dushyant Rana (Secretarial Staff)  
Mr. Praveen Kaushal (IT- Department)

# Title of Talk: Air Pollution

Under immense, magnitude initiative by Ek Bharat Shrestha Bharat, IIT Indore Rashtriya Avishkar Abhiyan hosted new session of "Vigyan par Charcha" Session-3 on Air Pollution on dated 27th January, 2021. The speaker of this session was Dr. Sanjay K. Singh, Associate Professor, IIT Indore.

The session was hosted by Dr. Niraj Kumar Shukla, Convenor-EBSB, IIT Indore. In the beginning Dr. Shukla welcomed Dr. Sanjay K. Singh and gave brief introduction about their academia profession and his achievement so far.

After, this Dr. Shukla requested to Dr. Sanjay K. Singh to take over the session. Initially, before going to move forward Dr. Sanjay gave the brief description how air pollution is responsible for current environment and also stressed how Indore did well in terms of getting rid of this immense problem of Pollution.

According to him, Air pollution is caused by the presence in the atmosphere of toxic substances, mainly produced by human activities. He explained the major causes of Air pollution: Combustion of fossil fuels, Emissions from industries and factories, releasing large amount of carbon monoxide, hydrocarbon, chemicals and organic compounds into the air, Waste production, mostly because of methane generation in landfills.

After this, he explained with how much CO<sub>2</sub> emission we generate when we use private transport, and he tried to convey how we can decrease the emission level of carbon dioxide by using public transport.

Dr Sanjay also explained why Earth is warm; what are the effects of Green House Gasses. He explained this concept through some images and a video which was a little experimental based which can easily see on You tube (the link is available at the end of this report).

He also successfully tried to explain the concept of Global warming, ocean acidification, smog. He approached, how we can use alternative sources (like use of electric vehicle, hydrogen vehicle) to decrease the level of Air Pollution.

Before ending the lecture he thanked to EBSB Convener, his team and MP Govt. for promoting this event.

# Effect on Taj Mahal




# Glimpse of Session-3

<https://youtu.be/YgylcQ94Bl0>

Via CiscoWebex

## "वायु प्रदूषण" आओ मिलकर समझें



डॉ. संजय कुमार सिंह  
रसायन विभाग  
भारतीय पेट्रोलियम संस्थान (भार.प.सं.) इंदौर  
इंदौर 463 002 (मध्य प्रदेश), भारत

Dr. Sanjay K. Singh | Dr. Niraj K. Shukla | Dr. Ajay Kushwaha | Dr. Ashish Kumar

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## मानव द्वारा उत्पादित अतिरिक्त ग्रीनहाउस गैस



वायुमंडल में कार्बन डाइऑक्साइड गैस में लगातार वृद्धि

Dr. Sanjay K. Singh | Dr. Niraj K. Shukla | Dr. Ajay Kushwaha | Dr. Ashish Kumar

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## हमारी जिम्मेदारी

वृक्ष CO<sub>2</sub> को अवशोषित करते हैं



वृक्ष हमारे मित्र

Dr. Sanjay K. Singh | Dr. Niraj K. Shukla | Dr. Ashish Kumar | EBSB-IIT Indore

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## कार्बन डाइऑक्साइड उत्सर्जन



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## वाहनों से निकलने वाला धुआं

In India  
 2,300,000,000,000 kg (2019)  
 900,000,000,000 kg (2000)  
 -150%

कार्बन डाइऑक्साइड उत्सर्जन  
 346,000,000,000,000 kg (2022)  
 138,000,000,000,000 kg (2015)  
 -150%

Increased carbon dioxide causes more heat to be retained and temperatures to increase  
 कार्बन डाइऑक्साइड बढ़ने से अधिक गर्मी बरकरार रहती है और तापमान में वृद्धि होती है

Dr. Sanjay K. Singh, Dr. Niraj K. Shukla, Dr. Ajay Kushwaha, Dr. Ashisha Kumar

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## भूमंडलीय ऊष्मीकरण (Global warming)

अर्थ पृथ्वी के वायुमंडल और महासागर के औसत तापमान में हो रही वृद्धि और उसकी अनुमानित निरंतरता है।

HELP!

Dr. Sanjay K. Singh, Dr. Niraj K. Shukla, Dr. Ashisha Kumar

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## इंदौर को देश का सबसे स्वच्छ शहर

सीएनजी से ग्रीन हाउस गैसों का 20%-30% कम उत्सर्जन होता है

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## Particulate Matter वायुमंडलीय कण पदार्थ (PM 2.5 and PM 10)

PM 2.5  
 PM 10

पीएम 2.5 का व्यास, जो कि 2.5 माइक्रोमीटर है, मानव बाल के व्यास का केवल 3% है

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- Arun Bhadouria g
- TRIBHUWAN PRA
- मडीकला तहसील नगरी
- Pratibha Upadhya
- Balraj Prasad Tiw
- Ramakant Mishra
- Gopal Kalam गोपा
- उत्कृष्ट उमवि पुनासा
- AJAY SHIVHARE
- Himmat Singh Th
- Nice Sir
- sunita soni good
- Ramesh Goswam
- Sunil Chouhan g
- Narayan das Kush
- P. D. Soni सर हमरा

# Thanks

<https://youtu.be/YgylcQ94Bl0>

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Slide 39 of 39 English (India)

पर्यावरण संरक्षित, हम सुरक्षित

Reduce Reuse Recycle

Organometallics and Nanotech Catalysis Group

Dr. Sanjay K. Singh Dr. Niraj K. Shukla Dr. Ashisha Kumar Dr. R. P. tripathi oic +2

1:05:02 / 1:06:15

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- Lucky Nama thank you sir
- S Shyamla Raigaonkar Thanks and nice sir
- M Meenakshi Verma Very nice sirji
- R Radheshyam Bhatt thanks sirji
- M Meena Mahobia Thanks sirji
- J Jitendra Kushwah namaste sir
- A Anita Dubey thanks sir
- New Gamer dala aooo looooooooooooooooooooooIIIIII
- K Kirti Soni hi
- M Manju Tiwari नमस्ते सरजी
- V Vijaya Bhatt thanks sir
- R Rajesh Sharma Thanks sir
- K Kanhaiyalal Narengffv nmmjbc हमारे बड़े बुजुर्गों दादा दादी ने पेड़ पौधे जंगल में देखे थे हमारे पिताजी ने बाग बगीचे में देखें और हमारे आज के बच्चे इनको गमले में देख रहे हैं आने वाली पीढ़ी कहां कैसे देखेगी ?
- M Meena Malakar thanku ser ji बहुत ही रोचक जानकारी प्राप्त हुई
- J Jitendra Kushwah thanks sir

HIDE CHAT REPLAY