

## Dr. Ambedkar College Deekshabhoomi, Nagpur

Department Of Chemistry

Date: 14/09/2021

### World Ozone Day-2021

The **Chemistry Department** of the college has organized Guest lecture to celebrate virtually the " **World Ozone Day-2021**" on 16<sup>th</sup> September.

The guest speaker is **Dr. P.R. Chaudhari** Deputy Director & Scientist CSIR NEERI, Nagpur.

The Topic of the Lecture is "**Environmental and Health Aspects of stratospheric Ozone Layer Depletion**".

All the Chemistry Students and Faculties are requested to attend the Guest lecture on Zoom Link sharply at **2.00 pm on 16 /09/2021**.

#### Joining Link

<https://us06web.zoom.us/j/87826457068?pwd=ZmhnMmFCWG16bzgvWmJnMFNzaW82QT09>

Program Coordinator

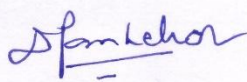


Dr.V.M. Shivankar

Professor

Department of Chemistry

Head

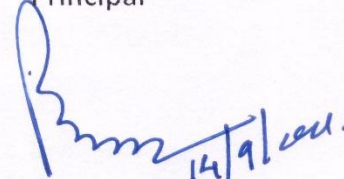


Dr.D.Y. Panhekar

Professor

Department of Chemistry

Principal



Dr. Mrs.B. A. Mehere  
**Officiating Principal,**  
**Dr. Ambedkar College,**  
**Deekshabhoomi,**  
**NAGPUR.**



# Dr. Ambedkar College, Deekshabhoomi,

Virtual Celebration of

## World Ozone Day 2021

Organized by

Department of Chemistry,  
Dr. Ambedkar College, Deekshabhoomi, Nagpur



**Date: 16<sup>th</sup> Sep 2021**  
**(Thursday)**  
**Time: 2:00 PM**

Guest Lecture on

### Environmental and Health Aspects of Stratospheric Ozone Layer Depletion

By

**Dr. P. R. Chaudhari**

Ex-Deputy Director & Sr. Scientist  
CSIR-NEERI, Nagpur  
(Resource Person)

Joining Link

<https://us06web.zoom.us/j/87826457068?pwd=ZmhnMmFCWG16bzgvWmJnMmFNZaW82QT09>

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**Dr. V. M. Shivankar**

Professor

Department of Chemistry  
Program Coordinator

**Dr. D. Y. Panhekar**

Professor and Head

Department of Chemistry

**Dr. Mrs. B. A. Mehere**

Principal

**Dr. N. G. Telkapalliwar**

Associate Professor

Department of Chemistry  
Program Co-Coordinator

**Dr. Mrs. D. M. Borikar**

Associate Professor

Department of Chemistry  
Program Co-Coordinator

**Dr. R. C. Sawant**

Assistant Professor

Department of Chemistry

**Mr. Parag Panse**

Assistant Professor

Department of Chemistry

# **Dr. Ambedkar College, Deekshabhoomi, Nagpur**

## **Report**

# **World Ozone Day 2021**

**Organized by**

## **Department of Chemistry**

The Chemistry Department of the college has organized World Ozone Day 2021 on 16<sup>th</sup> September 2021 at Dr. Ambedkar College Deekshabhoomi, Nagpur. The Chief Guest for this function was Dr.P.R. Chaudhari, Ex Director & Scientist NEERI Nagpur.

The Topic for this lecture was “Environmental and Health Aspects of Stratospheric Ozone Layer Depletion” The Principal of the college Dr.Mrs. B.A. Mehere has chair this function. Dr. V.M. Shivankar, Professor Department of Chemistry was the Program Coordinator. Faculties of the Department and more than 200 Chemistry students were attended this virtual celebration program of World Ozone Day 2021. Dr. Mrs. B.A. Mehere has given welcome address.

Dr.P.R. Chaudhari in his lecture cover all points regarding Environmental imbalance, said that environmental & Health Aspects of Stratospheric Ozone layer Depletion. Also explain importance of the Ozone layer. Ozone layer is a stratosphere which is layer of atmosphere around the earth. Colour of layer of atmosphere can be seen from interaction space station.

He also explained about Ozone which is highly reactive form of oxygen. O<sub>3</sub> exist in both Tropospheric and Stratospheric zones of earth atmosphere and how there is formation of ozone in Troposphere has shown highest ozone level recorded at various place in India. He focusses on Health effect of Tropospheric ozone. There is formation and Depletion of O<sub>3</sub> layer 5.48 min.

He has shown videos of ozone layer Depletion which was very informative. Overall ozone layer is around the earth. Average thickness of ozone layer is 300 Dobson unit or 30 mms thick. He explained cause of degeneration of Ozone of Ozone layer. The rate of breakdown is faster than the formation therefore it layer becomes thin CFCs, BrFCs Nitrous oxide deplete the Ozone layer, these are widely used electronic instruments in Ac, Fridge, Car etc. Chemical reactions of CFCs deplete the Ozone layers.

Dr. P.R. Chaudhari also suggest the remedies on this how to solve problems of Ozone destruction. He has given the statistical data and up to 50 percent destruction of ClFC by 1918. He explained the impact of Ozone layer depletion causes Skin cancer and genetic damages. UV radiation in sun light and Health impact of UV radiation on human life. Finally, he said that Ozone hole is responsible to climate change ang Global warming.

After his very informative lecture Dr. V.M. Shivankar has given the vote of thanks. All Chemistry faculties Dr. D.Y. Panhekar, Dr. N.G. Telkapalliwar., Dr.Mrs. D.M. Borikar, Dr. Sawant and Prof. Parag Panse has attended this program. More than hundred and fifty students have attended this guest lecture.



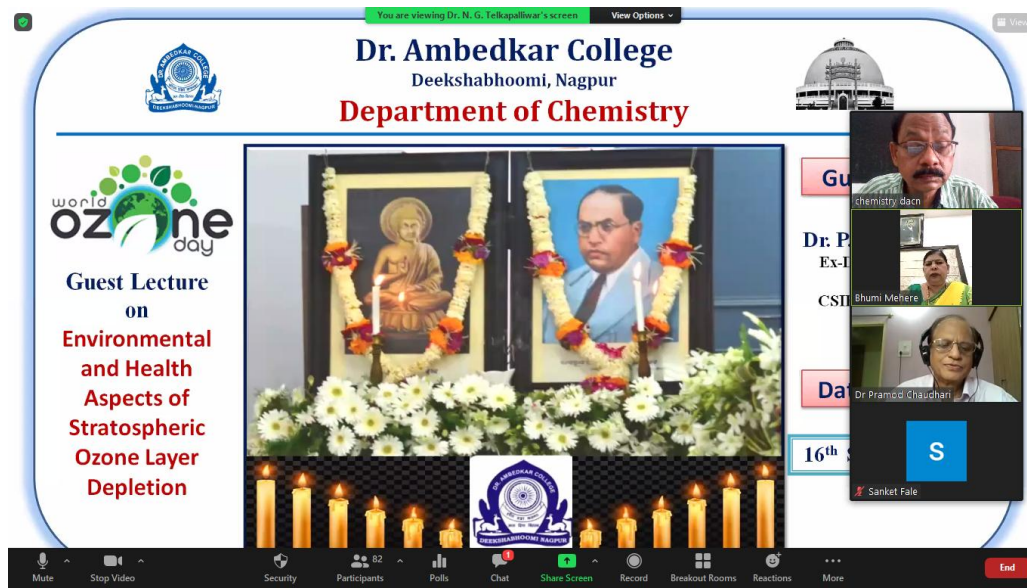
# Photographs of the program

You are viewing Dr. N. G. Telkapalwar's screen

**Dr. Ambedkar College**  
Deekshabhoomi, Nagpur  
**Department of Chemistry**

**World Ozone Day**  
Guest Lecture  
on  
**Environmental and Health Aspects of Stratospheric Ozone Layer Depletion**

16th September 2021



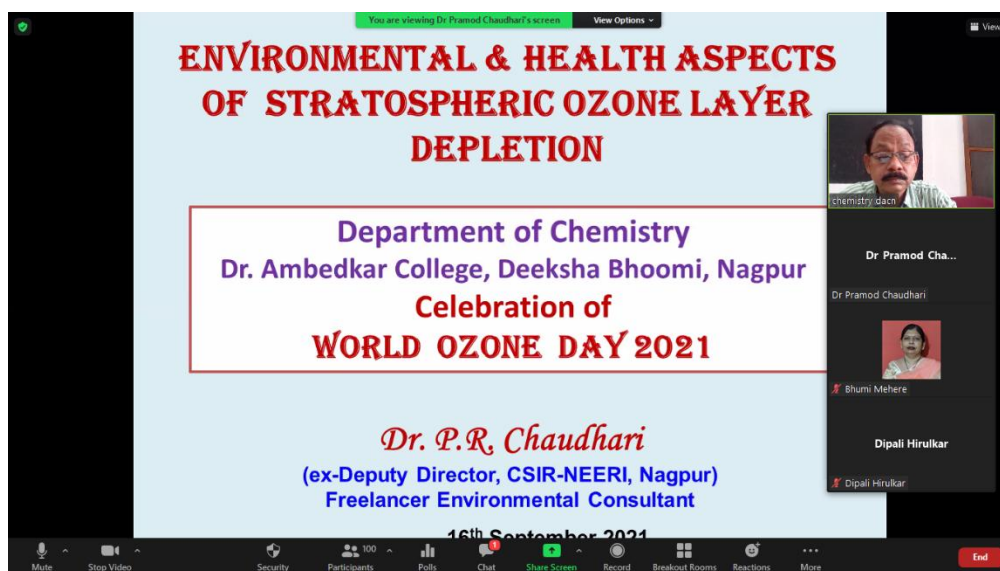
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**ENVIRONMENTAL & HEALTH ASPECTS OF STRATOSPHERIC OZONE LAYER DEPLETION**

Department of Chemistry  
Dr. Ambedkar College, Deeksha Bhoomi, Nagpur  
Celebration of  
**WORLD OZONE DAY 2021**

**Dr. P.R. Chaudhari**  
(ex-Deputy Director, CSIR-NEERI, Nagpur)  
Freelancer Environmental Consultant

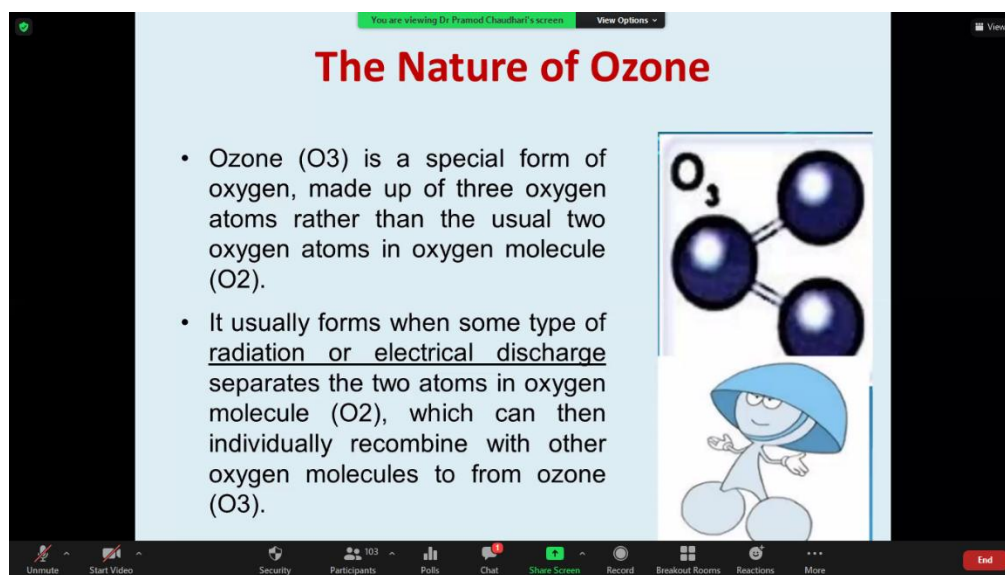

16th September 2021



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**The Nature of Ozone**

- Ozone (O<sub>3</sub>) is a special form of oxygen, made up of three oxygen atoms rather than the usual two oxygen atoms in oxygen molecule (O<sub>2</sub>).
- It usually forms when some type of radiation or electrical discharge separates the two atoms in oxygen molecule (O<sub>2</sub>), which can then individually recombine with other oxygen molecules to form ozone (O<sub>3</sub>).

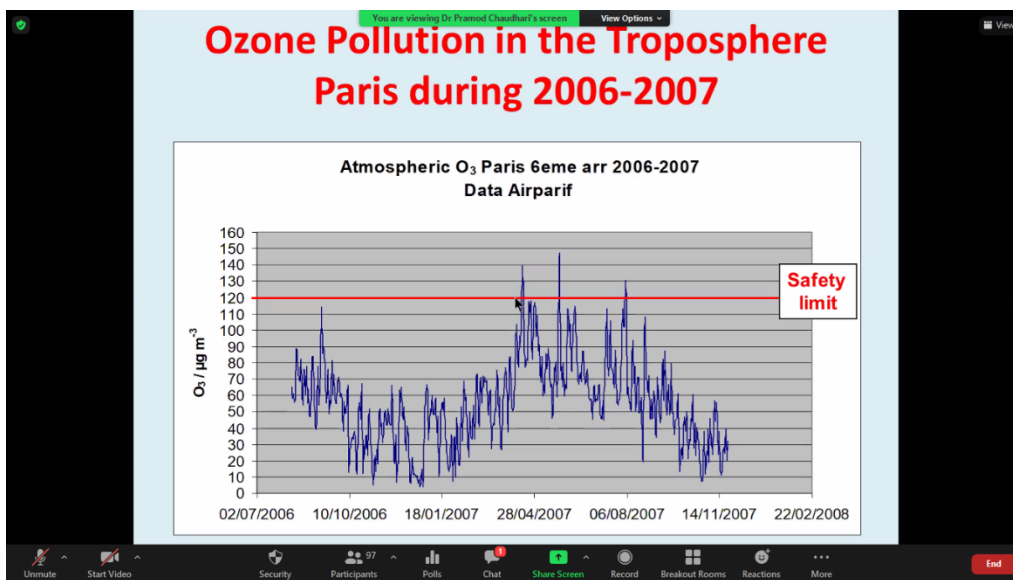


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## What is Ozone & Ozone Layer?

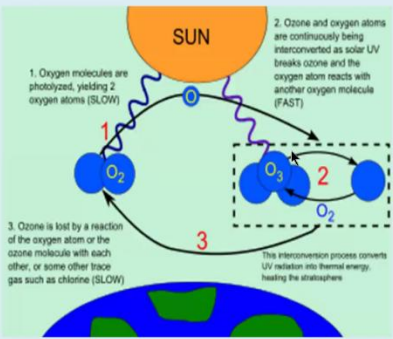
- **Ozone (O<sub>3</sub>)** is a highly-reactive form of oxygen.
- Unlike oxygen (O<sub>2</sub>), ozone has a strong scent and is blue in color.
- **Ozone** exists within both the tropospheric and stratospheric zones of the Earth's atmosphere
- **In the troposphere**, ground level ozone is a major air pollutant and primary constituent of photochemical smog
- **In the stratosphere**, the ozone layer is an essential protector of life on earth as it absorbs harmful UV radiations before it reaches the earth.

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## Ozone Layer Around the Earth

- Ozone layer is a deep layer in Stratosphere encircling the Earth that has large amount of ozone in it,
- The layer shields the entire Earth from much of the harmful ultraviolet radiation coming from the sun.
- The ozone layer's average thickness is about 300 Dobson Units (DU) or a layer that is 30 millimeters thick.
- Ozone in the atmosphere isn't all packed into a single layer at a certain altitude above the Earth's surface; it's dispersed.



1. Oxygen molecules are photolyzed, yielding 2 oxygen atoms (SLOW)

2. Ozone and oxygen atoms are continuously being interconverted as solar UV breaks ozone and the oxygen atom reacts with another oxygen molecule (FAST)

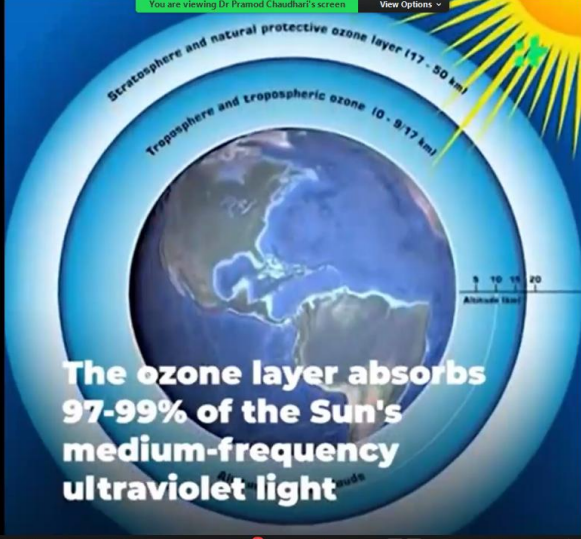
3. Ozone is lost by a reaction of the oxygen atom or the ozone molecule with each other, or some other trace gas such as chlorine (SLOW)

This interconversion process converts UV radiation into thermal energy, heating the stratosphere

## Man-Made Chemicals Depleting Ozone Layer ...contd.

➤ In recent years due to large quantities of man-made organo-halogen compounds especially –

- **Chlorofluorocarbons (CFCs) and Bromofluorocarbons**
- In 2009, **nitrous oxide** was the largest ozone depleting substance emitted through human activities.



The ozone layer absorbs 97-99% of the Sun's medium-frequency ultraviolet light



