

# Air Pollution Control Technology

## Effect of Air Pollution

by

**Nurud Suria Suhaimi**

**Norhidayah Abdull**

**Faculty of Engineering Technology**

**email: [nurud@ump.edu.my](mailto:nurud@ump.edu.my)**

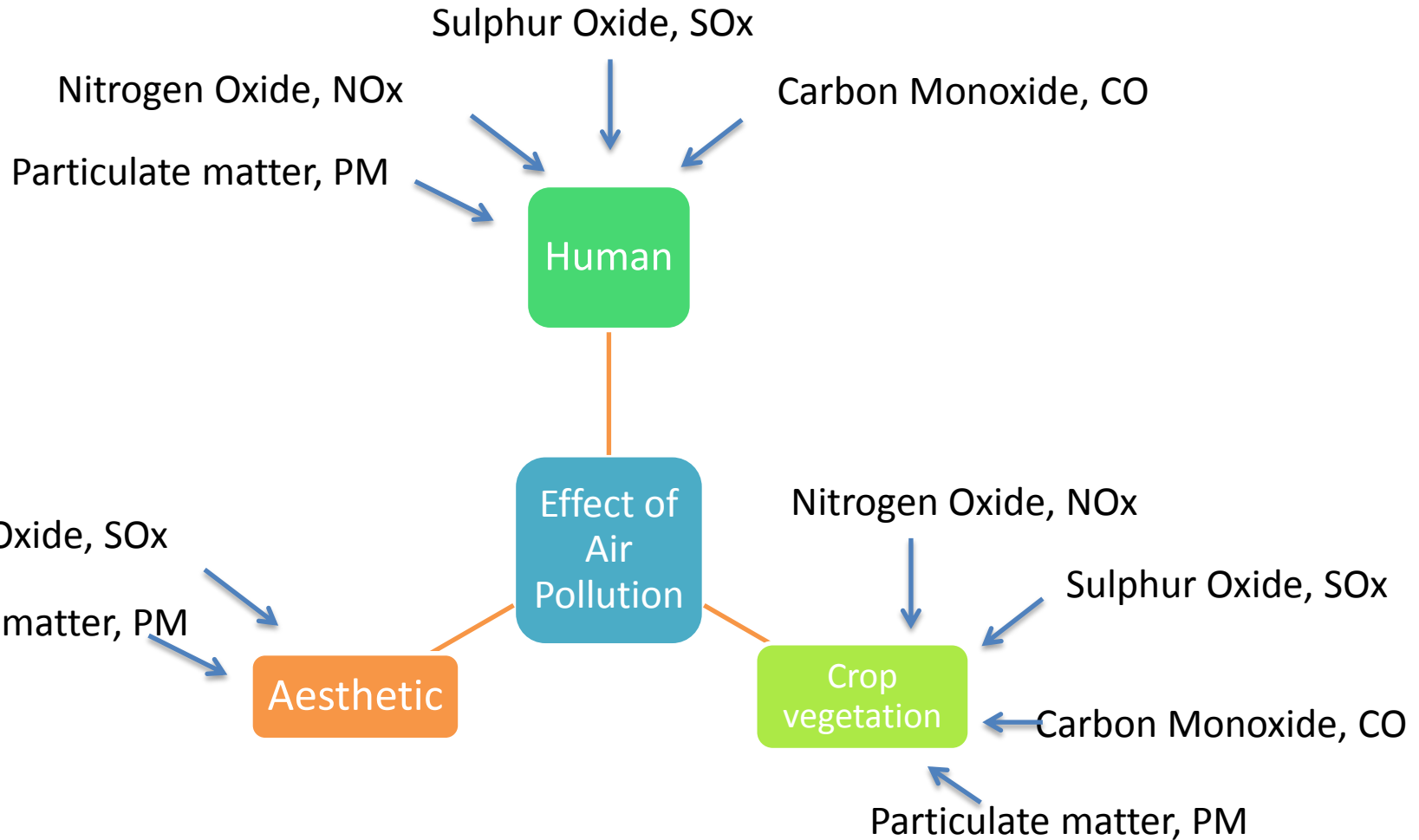


# Chapter Description

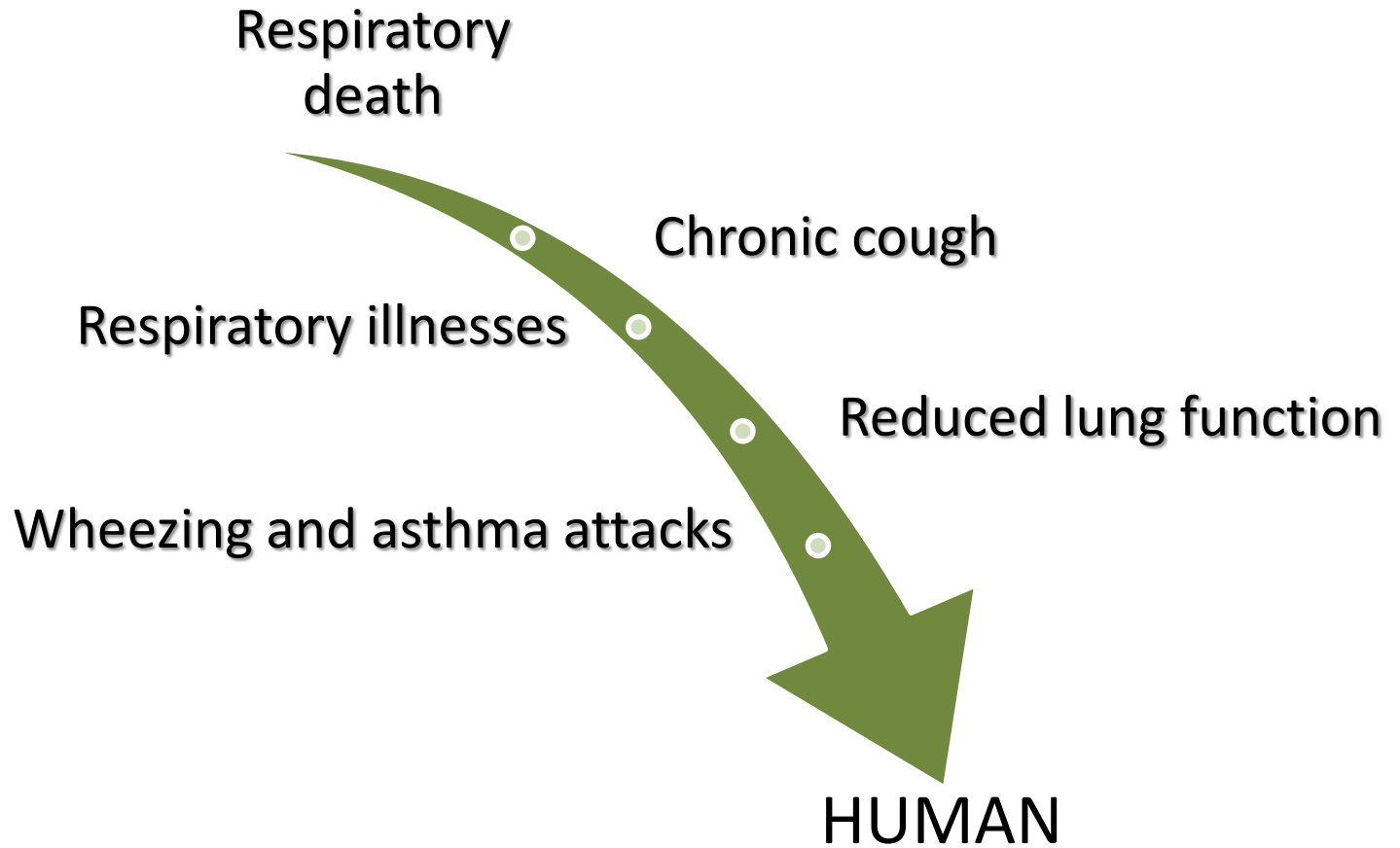
- **Aims**
  - To discuss the effects of air pollution towards human health, crop and aesthetic
- **Expected Outcomes**
  - Students are able to discuss the effect of air pollution towards human health and environment
- **References**
  - Valerro, Daniel A. 2008. Fundamentals of air pollution. 4<sup>th</sup> edition. Elsevier.



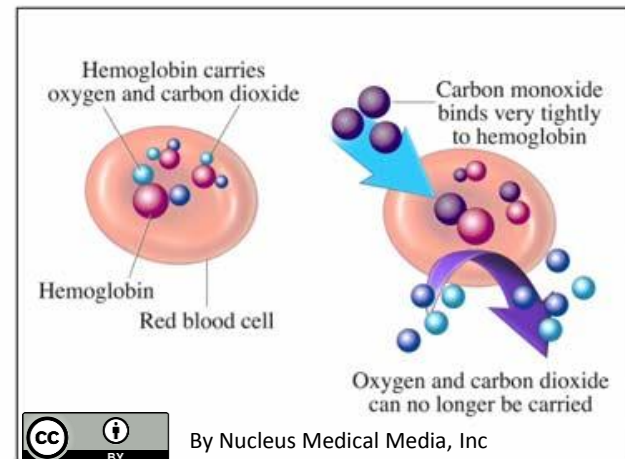
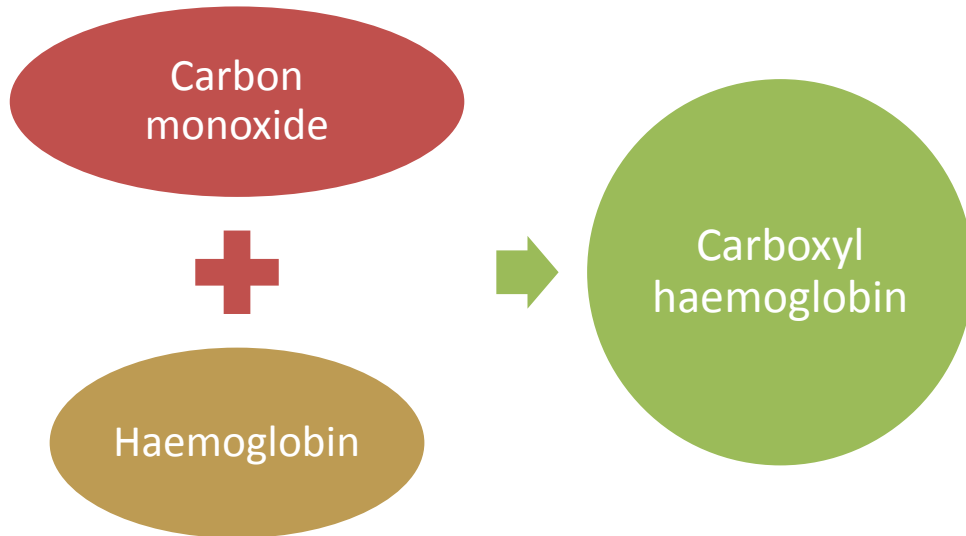
# Effects of Air Pollutants



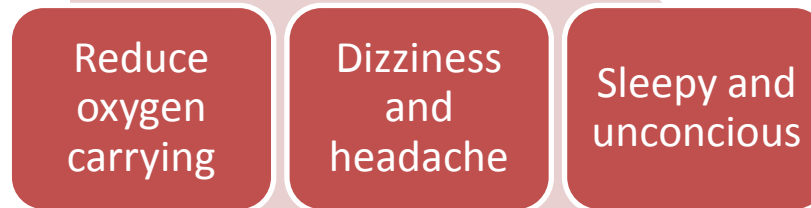
# Effects of PM on Human



# Effects of CO on human



Source: <https://uvahealth.com/>



# Effects of SO<sub>x</sub> and No<sub>x</sub> on human

## Oxides of Sulphur

- Eyes irritation
- Respiratory tract
- Cause cancer
- Obstruct breathing
- Irritants in H<sub>2</sub>SO<sub>4</sub> form

## Oxides of Nitrogen

- Reduce blood carrying capacity
- Lungs irritation
- Pneumonia, lung cancer, oxygen deficiency
- Irritation to digestive track



# Effects of PM, SO<sub>x</sub> and NO<sub>x</sub> on vegetation crop

## PM

- Deposited block stoma opening
- Contain toxic metal reduce plant growth
- Reduce soil pH

## SO<sub>x</sub>

- Long term exposure – discoloration of leaves
- Affects growth
- Damages tissues, toxic to plants and fertility

## NO<sub>x</sub>

- Damage tissue
- Damage leave and vegetation

Figure: Smog damaged (left) and clean air (right)



Source: <https://upload.wikimedia.org/>



OCW by Nurud Suria

Communitising Technology

# Effects on aesthetic

- PM cause damage to building, corrosion, fading the painting and reduce soil fertility when accumulated
- $\text{SO}_x$  damage the building containing carbonate, loose the leather strength and flexibility as well as discolored the material surface
- $\text{NO}_x$  cause corrosion, fades the cloth's color and cracking of rubber





# Conclusion

- Air pollutants not only damage the atmosphere or climate change but also harmful to human, crop and properties including buildings, clothes as well as vehicles. Preventive plan is crucial for a sustainable development of industrialization



NURUD SURIA SUHAIMI  
NORHIDAYAH ABDULL

LECTURER OF OSH PROGRAM  
UNIVERSITY MALAYSIA PAHANG  
(UMP)

