

*Distinguished Speakers'*

# **UEE Seminar Series**

*Hosted by Dept. of Urban & Environmental Eng.*

## **Heavy Metals in Air Emission and Assessment of Human Toxicity Footprint**

**Speaker: Prof. Junbeum Kim**  
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The purpose of this study is to propose the concept of the human toxicity (human cancer and non-cancer) footprint ( $\mu\text{g}$  1,4 DCB (Dichlorobenzene) eqv./ $\text{m}^3$ ) using heavy metal concentration data in the air in Provincial and Metropolitan City governments. In addition, the final goal is to assess and compare the human carcinogenic toxicity footprint in Provincial and Metropolitan City Governments from 1991 to 2019. To calculate the human carcinogenic toxicity footprint using heavy metal concentration in Provincial and Metropolitan City Governments, the ReCiPe 2016 life cycle impact assessment method in life cycle assessment (LCA) was used. For the human carcinogenic toxicity footprint calculation, the heavy metal concentration data in Provincial and Metropolitan City Governments are multiplied by the characterization factors of each heavy metal such as Pb, Cd, Cr, Ni, and As (Cu, Mn, Fe, Al, Ca, and Mg are not included in the air monitoring data) data ( $\mu\text{g}/\text{m}^3$ ). The unit of human carcinogenic toxicity footprint is shown in  $\mu\text{g}$  1.4 DCB eqv. value.

- **When :** Tuesday, August 2nd, 4 pm
- **Where :** Bldg. 113, B101  
Zoom: [unist-kr.zoom.us/j/6605199020](https://unist-kr.zoom.us/j/6605199020)
- **Host :** Prof. Kyung Hwa Cho  
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