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Molecular and environmental factors affecting respiratory health: from preschool children exposed to e-waste to patients with COPD

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DOI:

[10.33612/diss.1153083321](https://doi.org/10.33612/diss.1153083321)

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Document Version

Publisher's PDF, also known as Version of record

Publication date:

2024

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Cheng, Z. (2024). *Molecular and environmental factors affecting respiratory health: from preschool children exposed to e-waste to patients with COPD*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen. <https://doi.org/10.33612/diss.1153083321>

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PROPOSITIONS

BELONGING TO THIS DISSERTATION

Molecular and environmental factors affecting respiratory health: from preschool children exposed to e-waste to patients with COPD

1. The identification of a unique nasal expression signature in severe COPD shows that a nasal brush may become a useful non-invasive biomarker in obstructive pulmonary disease. (Chapter 2)
2. The concordance between severe COPD-associated gene expression patterns in nasal and bronchial tissues demonstrates shared pathogenetic mechanisms across the upper and lower airways. (Chapter 2)
3. The observation that there are more AT2-to-AT1 transitional cells in COPD patients suggests that the damage exceeds the capacity for repair. (Chapter 3)
4. The epigenetic profile is altered in COPD and this may contribute to impaired lung repair mechanisms that remain compromised even after smoking cessation in COPD. (Chapter 4)
5. The higher urine concentrations of PAH metabolites in children from e-waste areas represent an urgent environmental crisis, underscoring the critical need to implement stricter regulations on recycling practices. (Chapters 5 and 6)
6. Increased levels of *AhR* and *NLRP3* in children may be decisive for the development of a cytokine storm after exposure to PAHs. (Chapter 5)
7. The identification of PGE2 as a critical mediator in PAH and Pb co-exposure not only explains the decline in lung function but also makes PGE2 a candidate biomarker for respiratory toxicity in populations chronically exposed to environmental pollution. (Chapter 6)
8. The only true wisdom is in knowing you know nothing. (Socrates)
9. Learning without thought is pointless; thought without learning is dangerous. (Confucius)
10. There is no end to learning.

Zhiheng Cheng

GRONINGEN 2024