



# 環境毒物與新興污染物研究中心

Center for Environmental Toxin and Emerging-Contaminant Research

## About Us

Founded in 1999, as the 1<sup>st</sup> certified dioxin lab, the Center for Environmental Toxin and Emerging-Contaminant Research (CENTER), serves as one of the largest ISO-certified academic environmental laboratories in Taiwan.

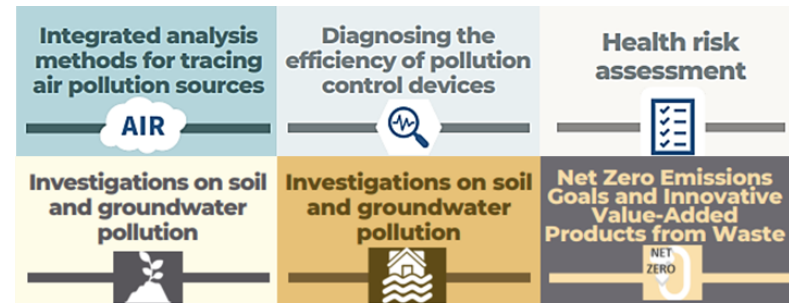
## International Laboratory Analytical Technique Comparison – High-Quality POPs Analysis Capability

- ◆ Participated in the international analysis QA/QC comparison for persistent organic pollutants (POPs) held by InterCinD from 2018 to 2022.
- ◆ **Ranked TOP 3 (out of 39 labs worldwide) in QA/QC result for POPs analysis in fish, sediment, soil, ash, milk powder and infant food.**
- ◆ Averaged up to 300 samples / month for dioxin analysis from 2023-2024.



## Current Progress

- ◆ Established QA/QC for quantitative analysis of **microplastics** using **Py-GC/MSMS** and simultaneous analysis of **microplastics and plastic additives** using **TD/Py-GC/MS**.
- ◆ **1<sup>st</sup> certified laboratory in Taiwan for the analysis of PFAS using LC-MS/MS.**
- ◆ Established QA/QC for an **all-in-one clean-up and fractionation method** from different matrices for multiple POPs, such as **PCDD/Fs, PCBs, PBDEs, PAHs, N-PAHs, OPEs.**



Analysis of nearly all environmental matrices & items for any purposes

## SERVICE

- International samples logistic and analysis
- Standard Laboratory Testing
- Method Development
- Lab Establishment and Management
- Education and Training
- Technology Transfer
- Exchange and Project Cooperation
- Other Environmental & Auxiliary Services

## Accreditation



TAF No. 0664 & 3440; ISO/IEC 17025:2017; NIEA No. 079; CNS 17025:2018; MOHW No. F025 and A0014



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## Ongoing research cooperations: (Vietnam, Thailand and **Indonesia**)

1. Water quality (including microplastic) from rainwater harvesting utilized by coastal communities in North Jakarta (with local university partner). [**paper to be published in 2025**]
2. Microplastics and plastic additives (specifically PVC and phthalates) in seawater and desalination water in Jakarta Bay area (with local university partner). [**paper to be published in 2025**]
3. POPs and heavy metals contamination in cattle raised in municipal landfills in Central Java (with Nexus3) [**conference paper published in Dioxin 2024; paper to be published in 2025**]
4. PFAS contamination in surface water and sediments in Jakarta (with local university partner). [**paper to be published in 2026**]
5. Ongoing funding proposal with local university partners in Indonesia - microplastics studies from green mussels in North Sulawesi, Indonesia. [**proposal status to be updated in August 2025**]



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## Recommended research focus: (Indonesia)

1. POPs baseline monitoring, national Inventory and data accessibility from environmental matrices in existing industries to identify hot spots.
2. Regulatory evaluation and policy research to compare national standards with international benchmarks; propose reform and improve compliance.
3. POPs fate and transport in tropical and archipelagic ecosystems (e.g., rivers to mangroves), bioaccumulation in seafood relevant to local diets.
4. Health risk assessments, biomonitoring (blood, breast milk) in high-risk populations, dietary exposure (food sources) and potential health outcomes. Including impacts in communities near landfills, industrial sites, mining areas, public awareness, gender and children's exposure.





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Regional capacity building in Indonesia



## Jagad Lestari™ Center for Environmental Toxin and Emerging Contaminants

**(J.L. CENTER)**

“Jagad” means world or universe, “Lestari” means everlasting or sustainable  
J.L. CENTER hope to be one of the key player for environmental sustainability in Indonesia