



RISING
TO THE
FUTURE
UCD Strategy 2020-2024





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Assessing human exposures to pollutants using a human biomonitoring sampling strategies

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Exposure Source

- Agricultural insecticides
- Secondary exposure
- Spraying garden plants and flowers
- Drinking water
- Food sources
- Dust

3

Toxicokinetics

A	Absorption
D	Distribution
M	Metabolism
E	Excretion

2

Exposure Route

- Inhalation
- Ingestion
- Skin uptake

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Human Biomonitoring

Levels of pesticides & metabolites are measured in human urine samples

7

Exposure Management

6

Exposure and Risk Assessment

RISK = HAZARD X EXPOSURE

		IMPACT			
		0 Acceptable	1 Tolerable	2 Unacceptable	3 Intolerable
LIKELIHOOD	Improbable	Green	Yellow	Orange	Red
	Possible	Green	Yellow	Orange	Red
	Probable	Yellow	Orange	Red	Red

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Assessing human exposures to pollutants using a human biomonitoring sampling strategies

Pesticide Compound

↓

Primary Metabolite

↓

Secondary Metabolite

Human Biomonitoring – what has been done?

Numerous studies investigating
exposure to pesticides

Occupational and environmental
settings

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Characterising Occupational Exposure to Glyphosate among Amenity Horticulturists



A thesis submitted by

Alison Connolly

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Feasibility for national programmes



DEMOCOPHES

Investigating environmental exposures
of mother/child pairs

- Mercury
- Phthalates

Contribution to the harmonized
European approach to human
biomonitoring studies





science and policy
for a healthy future

Human Biomonitoring – where are we now?

- Grant Signatories –
Environmental Protection
Agency (EPA)
- Beneficiaries
 - University College Dublin (UCD)
 - Dublin City University (DCU)



Human Biomonitoring – where are we now?

Food Safety Authority of Ireland
(FSAI)

- Biomarkers Working Group



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EHP Partnership on Human Biomonitoring in the WHO European Region





Human Biomonitoring – how can we benefit?

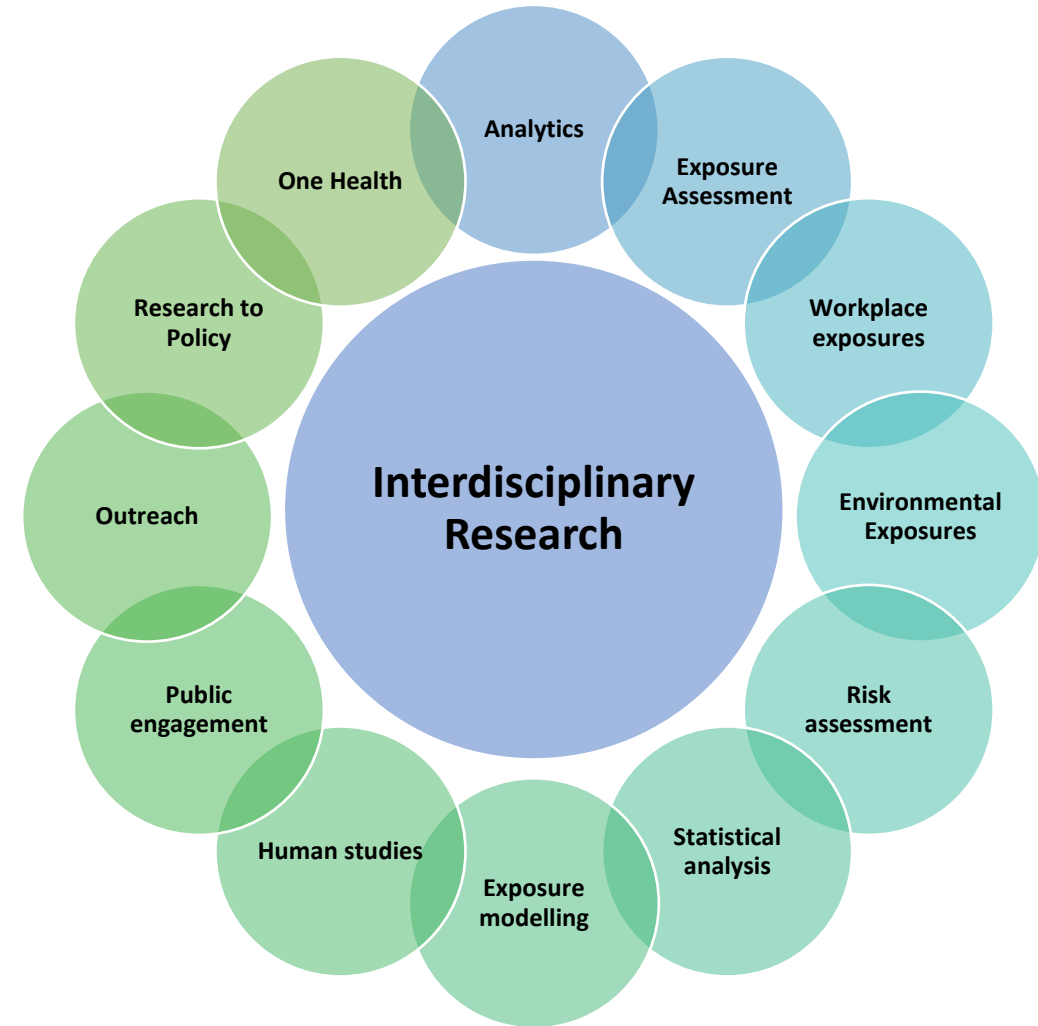
Addressing policy questions



- Need for measured data
- Evaluate environmental and occupational settings
- Ensure safe chemical use

Access to an extensive international network

Investigating chemical exposures using human biomonitoring (HBM) strategies.





Thank you

