iCSL2 – Food System Transformation: Challenge Bionutrient metre

The challenge:
How can the bionutrient-metre be a driver of food system transformation?

Background:
Over the past several decades, concentrations of vitamins, minerals, and micronutrients have steadily decreased in fresh fruits and vegetables. During a comparable period, degenerative diseases such as Alzheimer's, diabetes, and heart disease have risen to epidemic levels. Simultaneously, agricultural practices have polluted aquifers and ecosystems and led to the degradation of millions of acres of land.
Although correlation does not prove causation, it is undeniable that human, crop, soil, and environmental health are deeply interrelated. Healthy food comes from healthy plants, and healthy plants come from biologically vital, ecologically regenerative, and carbon-rich soils.
But what is the definition of healthy food? Consumers have had few cues at their disposal for determining the relative nutritional value of specific fruits and vegetables. The truth is we haven't known the quality of our food because nutrient density has not previously been measurable**.**
However, this is now being made possible through the Bionutrient Institute lab in Michigan. They developed the bionutrient-metre, which is a handheld "spectrometer" to measure the nutrient density in food and crops, as well as carbon in the soil.
The envisioned theory of change is that consumers can use the device to test crops before purchase and through this, the economic drivers governing crop production could be dramatically shifted. The ability to tell quality in the store will give retailers an incentive to demand quality from their suppliers, which will govern incentives for growers to build organic matter in the soil to cycle carbon to its fullest capacity

Methods to approach the challenge:
interviews, surveys, test runs with the bionutrient-metre

Collaborating (supervising) partners:
Local2Local and the Athena Institute VU Amsterdam are now recruiting 5-7 motivated students from different master programmes (also from other universities!) that want to contribute to this challenge through their master thesis or internship. Themes to be researched in this project include:

1. Student (1) - from business administration or (social) entrepreneurship, e.g. what are suitable business models for bionutrient metre?
2. Student (2) - from social entrepreneurship position e.g. to what extent can the bionutrient-metre foster new opportunities for social value creation (e.g. new products and/or services for healthier eating habits and/or production/consumption/distribution of food in a more environmentally friendly way)?
3. Student (3) - from behaviour sciences position e.g. to what extent can the bionutrient metre drive consumer behaviour change?
4. Student (4) - from natural science position e.g. how to scientifically establish the relationship between soil health and the nutritional value of crops? (e.g. through a systematic review and meta-analysis)
5. Student (5) - from social science position e.g. to what extent changes at the local level can trigger systemic change?
6. Student (6) - from policy, business, management or economics e.g. how such biometer may contribute to changes in the existing financial system, such as financial rewards for those that contribute to biodiversity, nature, health and landscape?

7. Student (7) - business administration, entrepreneurship: new business models for farmers; to what extent can the bionutrient metre promote the adoption of responsible soil management and regenerative principles (e.g. circularity) by farmers?
8. Student (8) - open theme: students from any other background who have questions related to the challenge but which is not directly linked to the above sub-themes

Students selected to work on this challenge will also join the course iCSL2 (CLICK HERE for more information). In this course, the cross-disciplinary team will be guided in the process of collaboration and interdisciplinary knowledge integration that are necessary to contribute to address the challenge.

Interested?
Please send your CV and motivation letter to Eduardo Urias (eduardo.munizpereiraurias@vu.nl) until **January 27 2023** and you will be informed about the selection process. Please make sure you include in your motivation letter how this challenge could fit with your master project (thesis / internship) and what potential topic (research questions) you would like to address.

Additional information:
https://www.bionutrient.org
https://local2local.nl/blog/verslag-vitaal-voedsel-community-event-4-nov/ - Vital Food Community event @VU, hosting Dan Kittridge