

Periodic Table of Food Initiative (PTFI)

Call for Expressions of Interest for PTFI Center of Excellence (CoE) Africa

The [Periodic Table of Food Initiative](#) (PTFI) is a participatory effort to create and distribute a globally shared open-access food composition data platform using standardized mass spectrometry approaches. Taking a multi-sectoral collaborative approach informed by the food, health, agricultural, and environmental sectors, the PTFI will accelerate the evidence base to transform contributions of food for human and planetary health. PTFI will democratize technology and food composition data for stakeholders across the world.

The PTFI is establishing a global network of Centers of Excellence (CoE). We are seeking **Expressions of Interest** from public and private organizations to join our Centers of Excellence network and serve as the PTFI CoE for the continent of Africa. CoE are scientific entities, including universities and public health institutions, partnering with the PTFI to advance food composition analysis and translational impact. The selected PTFI CoE will serve three functions: (i) drive research innovation; (ii) lead capacity strengthening initiatives and; (iii) champion translation of science in connection with food value chain and civil society partners. Below is information on Submission Guidelines, Criteria for Selecting CoE, Roles of PTFI CoE,

Submission Guidelines

If your organization is interested in serving as the PTFI Center of Excellence Africa, please submit an expression of interest between 3 to 5 pages addressed to the PTFI Global Director Selena Ahmed (selena.ahmed@heart.org) with the following information.

- Applicant organization name(s), description(s), and address. Please include a contact person's name, title, and contact information.
- Summary of experience and qualifications to serve as Center of Excellence aligned with the **Criteria for selecting Centers of Excellence** (see section below)

The deadline for submission is **March 15th 2022**. The PTFI Secretariat will review expressions of interest and invite potential candidates for a follow-up discussion. If you have any questions, please reach out to the PTFI Global Director Selena Ahmed (selena.ahmed@heart.org). The PTFI Center of Excellence Africa will be announced by May 2022.

Criteria for Selecting Centers of Excellence

Expressions of Interest will be assessed with the following criteria:

- Relevant expertise working in issues related to food, agriculture, nutrition, and health.
- Vision to catalyze public goods and private sector innovation.
- Infrastructure and technical expertise in mass spectrometry and analysis of food.
- Computational data processing capabilities or expertise for data analysis.
- Interest and ability to coordinate regional/national networks of public and private laboratories.
- Commitment and ability to convene partners in the development of capacity building programs as needed.
- Capacity and interest to raise complementary funding from national and regional bodies for

translational research and demonstration projects.

PTFI will provide limited base funding to leverage expertise and capacity of selected Centers of Excellence towards the goal of the initiative. Managed through an RFP, Centers of Excellence will be prioritized for implementing demonstration projects.

Roles of PTFI Centers of Excellence

The PTFI Secretariat, in consultation with Verso Biosciences, will engage with the CoE to define their specific role(s), develop projects, and identify funding opportunities. Each CoE may serve two or more of the following functions:

1. Drive Research Innovation

CoE will drive research innovation through: **(i)** advancement and implementation of PTFI core technologies; **(ii)** development and implementation of demonstration projects; **(iii)** core technology contributions to the PTFI data platform.

Advancement and Implementation of PTFI Core Technologies. The PTFI Secretariat and Verso Bioscience will engage with the CoE to identify needs and expertise in core technologies for food composition analysis in countries across regions in Africa. Collaboration between the CoE and Verso Biosciences will aim to enhance the essential technical, logistical, and analytical capabilities at selected partner organizations in Africa. For example, these projects may be in the areas of sample preparation, mass spectrometry, glycomics, lipidomics, analytical separations, database annotation, or other core technologies. We expect CoE to onboard PTFI's multi-omics platforms at their institutions on the basis of their expertise and capacity.

Funding opportunities: Funding opportunities will be available for collaborations on technological advancements that will add to the value of PTFI. In addition, CoE will be provided funding to onboard PTFI's multi-omics platforms at their institutions on the basis of their expertise and capacity.

Development and Implementation of Demonstration Projects. Demonstration projects are intended to exhibit the experimental and translational power of PTFI technology at the interface of agriculture, nutrition, health, and/or the environment. These projects will leverage the expertise of the CoE as well as ideally their existing research, where PTFI analyses can be added to existing projects

Funding opportunities: PTFI will release Request for Proposals (RFPs) in priority areas to the CoE to lead demonstration projects in Africa.

Core Contributions to the PTFI Data Platform. Data from PTFI demonstration projects are to populate the PTFI data platform and enable increased big data analytics across the platform.

2. Lead Capacity Strengthening

PTFI CoE are to lead capacity strengthening initiatives in Africa through the following activities: **(i)** training of graduate students and lab personnel on core PTFI technologies for food composition analysis; **(ii)** technology and information dissemination of the PTFI (including advancement of PTFI's centralized learning repository, Good Food U) and; **(iii)** building of laboratory infrastructure.

Funding opportunities: The Secretariat will work with CoEs to identify opportunities for capacity

strengthening.

3. Champion Translation of Science

PTFI CoE are to champion translation of science from PTFI demonstration projects to inform evidence-based policy and programs in order for long-term societal impact for human and planetary health.

Major Work Streams of PTFI:

- **Inventory of foods:** PTFI has undertaken a global multi stakeholder collaborative process to seek nominations of and select foods from all regions of the world. Dietary importance, geographical diversity and innovation potential are some of the criteria used for the identification and selection of foods. The result of this process is a remarkable collection of the most inspiring foods from every region of the world, which are of great cultural and scientific interest. PTFI will share results of the work widely.
- **Technical Platform:** The PTFI is creating a technical platform for standardized mass spectrometry-based analytical approaches for deep compositional analyses of food including the discovery of new food molecules. It will comprise kits, methods, and data processing services to enable a network of public and private laboratories to analyze thousands of foods around the globe by food composition category. The PTFI will take a phased approach to the development of kits, informed by the initial inventory of 100 food before expanding it to 1000 foods. To develop this technical platform, PTFI is working with reagent manufacturing, mass spectrometry, and data processing companies across the globe.
- **Periodic Table of Foods (PTF) Database:** Data generated by networks of laboratories will be assembled into a large and robust public reference database of food compositions. Once the database is in place, the scientific community and private sector can build on this public resource by adding analyses of additional foods, varieties, and cooking methods. PTFI has developed a database management strategy and consulted key stakeholders in this process. The Secretariat in collaboration with partners are working on implementing the database strategy, building on the American Heart Association's Precision Medicine Platform-- a cloud-based technology solution that enables the global medical research community to accelerate breakthroughs in cardiovascular and brain diseases.
- **Access and benefit sharing:** Benefit sharing is a core component of the PTFI impact pathway.

We are developing guiding principles and a framework for access and benefit sharing, so that technology, data and insights from PTFI are accessible to wider stakeholders and countries. PTFI will comply with applicable access and benefit sharing (ABS) agreements. PTFI will generate and share benefits with stakeholders from developing countries through partnerships, training and technology transfer both during the development of the database and afterwards.

- **Sample management:** Food analyses will be informed by a common approach to sample collection and access to materials for the network of laboratories participating in the network. The PTFI has developed a sample management strategy, a key framework guiding collection, storage, and shipping of food samples, and management of metadata associated with them.
- **Case Studies:** The PTFI will develop case studies, which will serve as communication tools to raise awareness on the importance and revolutionary nature of the initiative. We aim to develop 10-12 case studies covering public health, environmental conservation and

restoration, agricultural efficiency and innovation, and food innovation and engineering in partnership with interested experts and institutions.

- **Demonstration Projects:** The PTFI will issue requests for proposals (RFPs) for demonstration projects that can answer global questions around food, nutrition, and health utilizing the technical platform and PTF data to demonstrate its revolutionary nature. The selected projects will be aligned with the interests and strategies of the Funders Consortium, relevant to a diversity of approaches and audiences with scalable results and impacts. PTFI Centers of Excellence will play a key role in identifying and implementing demonstration projects.

Funding

Funding for the PTFI is provided by the [Rockefeller Foundation](#), the [Foundation for Food and Agriculture Research \(FFAR\)](#), and [Seerave Foundation](#).

PTFI will provide each CoE with annual base support for three years (or more contingent on funding). Funding can be used for time and resources allocated to, including but not limited to, meeting the functions of the CoE including: (i) personnel time; (ii) administrative needs; (iii) instrumentation; (iv) training; (v) research supplies; (vi) per diem and; (vii) travel. In addition, PTFI will work with each CoE to identify additional funding opportunities matched to their area(s) of focus through targeted RFPs aligned to PTFI priority areas. CoE's will have a direct line of contact to the PTFI Secretariat to develop specific proposals crafted to their strengths. CoE are encouraged to secure further complementary resources to leverage PTFI funding. Funding will be contingent on satisfactory submission of deliverables associated with the responsibilities outlined above.

PTFI Governance and Management

The PTFI was established by the [Rockefeller Foundation](#). The PTFI is managed by the PTFI Secretariat, comprised of a coalition between the [American Heart Association \(AHA\)](#) and the [Alliance of Bioversity International and the International Center for Tropical Agriculture \(CIAT\)](#). PTFI technology is being led by PTFI's analytical and technical partner, [Verso Biosciences](#). The governance and management model of PTFI reflects the global nature of the initiative that is collaborative and inclusive (see Annex 1).

- **Funder Consortium Board** sets strategy and identifies priority issues for investment. Established by the Rockefeller Foundation, the PTFI currently receives funding from two additional donors - the Foundation for Food and Agriculture Research (FFAR) and Seerave Foundation. They form the core governance and decision making body of PTFI.
- **Secretariat:** A coalition of Alliance of Bioversity International and CIAT, a CGIAR Center and the American Heart Association (AHA) will serve as the permanent Secretariat of the PTFI, coordinating, facilitating and managing the day-to-day operations of the PTFI. Selected through a competitive process, the CIAT-AHA Secretariat brings together human health and food systems fields, merging complementary research and development communities into a single platform that is needed to achieve the ambitions of the PTFI.
- **Verso Biosciences:** The lead technology partner establishing the vision and strategy for the development of PTFI methods, standards and kits. Verso will coordinate the overall technology development and deployment in coordination with networks of both public and private laboratories, the Secretariat and Centers of Excellence.

- **Centers of Excellence network** will drive innovation, capacity strengthening, and translational opportunities of PTFI. In their geographic role, Centers of Excellence may coordinate a network of laboratories that use PTFI technology and support capacity building.
- **Scientific Advisory Committee:** With the purpose of ensuring scientific integrity of PTFI, this committee will provide scientific guidance and input to the FCB and Secretariat. It will review and provide insights on overall strategy, science quality, methods, and applications of the PTF database.
- **Multi-Stakeholder Advisory Committee:** This committee will represent a broad range of stakeholders from different sectors, geographies and expertise, informing Funder Consortium Board and the Secretariat on PTFI strategy and priorities. The purpose is to ensure that PTFI integrates a broad range of perspectives, needs, challenges, and opportunities from several sectors.

**Annex: 1
Governance and Management model of PTFI**

