

# Heartland Children's Nutrition Collaborative



AN INITIATIVE SUPPORTED BY  
THE RICKS FAMILY FOUNDATION  
THROUGH RILEY CHILDREN'S FOUNDATION



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Submission Due Date: **Thursday, September 12, 2024**

Purdue University PIs, Contact **Senay Simsek, PhD** [ssimsek@purdue.edu](mailto:ssimsek@purdue.edu) with questions.

Indiana University School of Medicine PIs, Contact **Carmella Evans-Molina, MD, PhD** [CDMD@iu.edu](mailto:CDMD@iu.edu) with questions.

WebCAMP portal, Contact **Julie Driscoll** [jdrisco@iu.edu](mailto:jdrisco@iu.edu) with questions.

**UPLOAD** via the **Start a Submission** [CTSI CDMD Nutrition Link](#)

*If awarded, this will be considered **internal funding for both IU and Purdue** applicants and submission does not require prior approval from ORA or Purdue Pre-Award prior to submitting through WebCAMP.*

## **Program Description:**

The Heartland Children's Nutrition Collaborative will leverage the combined strengths and expertise of Purdue's College of Agriculture, including the Department of Food Science, along with insights from other departments such as Biomedical Engineering and Nutrition, and the IU School of Medicine's Department of Pediatrics, along with members of the Child Health Research Institute and members of the Indiana Diabetes Research Center. This collaboration aims to explore how early-life food intake can impact both short-term and long-term health. This initiative seeks to unravel the intricate relationship between food and health, specifically during the formative years of life – from neonatal stages to young adulthood. The transition from neonatal stages to young adulthood marks a period of rapid growth, development, and vulnerability. During these formative years, the food intake of individuals has profound ramifications, not just for immediate health but in establishing metabolic, physiological, and cognitive trajectories that influence long-term health outcomes. Recognizing the intricate interplay between food and health during this period, the Heartland Children's Nutrition Collaborative sets out to bridge the gap between pioneering scientific research and tangible clinical applications.

With the alarming rise in pediatric conditions such as obesity, diabetes, and other food-related illnesses, understanding the underlying biochemical, physiological, and metabolic mechanisms becomes paramount. This initiative is particularly timely and essential given the shifting global dietary patterns often influenced by socioeconomic, cultural, and environmental factors. We aim to fund research projects investigating relationships between nutrition and early-life food intake with health and disease in children. Examples of projects responsive to this initiative may include but are not limited to the following topics:

*Uncover Molecular Mechanisms:* Understand how various foods interact at the cellular and molecular levels during different pediatric stages, influencing gene expression, metabolic pathways, and physiological responses.

*Gut Health & Microbiome Dynamics:* Explore the nexus between dietary intake, gut health, and the microbiome, understanding how these factors converge to affect overall pediatric health.

*Obesity & Chronic Disease Onset:* Investigate the etiological underpinnings of early-onset obesity and how it links to chronic diseases later in life, aiming to decipher the role of early dietary patterns in these processes.

*Personalized & Designer Foods:* Harness the power of genomics, metabolomics, instrumentation science, and other advanced fields to pave the way for more personalized food intake recommendations for children, ensuring optimal health outcomes.

*Translational Impact:* Ensure that the insights gleaned from this research are not confined to academic circles but translate into actionable strategies, dietary guidelines, clinical measurement capabilities, screening strategies, and interventions that researchers can apply in clinical settings and public health initiatives.

## **Ultimate Goal:**

Central to this collaborative effort is a dual-purpose mission that unites a broad spectrum of academic and research disciplines, focusing on enhancing health and wellness from early life. The initiative commits to an in-depth exploration of how early-life nutrition impacts comprehensive health trajectories, covering everything from immediate physiological reactions to long-term wellness outcomes. Furthermore, the endeavor aims to set a new standard in academic and research excellence, reflecting the priorities of major funding bodies and establishing benchmarks for future projects.

This initiative is led by IU School of Medicine's Department of Pediatrics and Purdue University's Department of Food Science and follows other successful initiatives between IU and Purdue, including the recent Crossroads Pediatric Device Consortium. The goal of this initiative is to fund collaborative teams that include at least one investigator from the IU and one investigator from Purdue. On the Purdue side, principal investigators (PIs) from the Department of Food Science, as well as those from other departments within the College of Agriculture and the Biomedical Engineering and Nutrition Departments, are encouraged to participate. On the IU side, eligible investigators will be from the Department of Pediatrics, the Child Health Research Institute, or from the Indiana Diabetes Research Center.

Together, these interdisciplinary team will leverage pilot funds from Heartland Children's Nutrition Collaborative to develop larger projects that will successfully compete for extramural funding. We expect that projects funded by the Heartland Children's Nutrition Collaborative will be exceptionally well-placed to attract multimillion-dollar grants from external funding agencies, including the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), the National Institute of Food and Agriculture (NIFA) under the USDA, and the Bill & Melinda Gates Foundation.

## **Funding Structure and Application Process**

### Funding Structure:

The pilot project program will commit a maximum of \$200K/year to support each pilot project. The \$200K total grant allocation will be divided equally between IU and Purdue Budget submissions should factor in this distribution.

Proposals will be reviewed by Purdue University and the IU School of Medicine or external evaluators identified by the leaders of the initiative. Those awarded funds must submit an annual online progress report in December, administered by the Indiana CTSI, and present their findings at the annual research update meeting.

### Application Requirements:

Applications soliciting support from the pilot project program should encompass:

Cover Page:

- Proposal Title
- Principal investigators' names and affiliations
- Please note eligible investigators will have a primary or secondary affiliation in the following departments or Centers:
  - IU School of Medicine Department of Pediatrics
  - Members of the Child Health Research Institute
  - Members of the Indiana Diabetes Research Center
  - PU College of Agriculture
  - PU Biomedical Engineering
  - PU Nutrition Department
- Eligible teams must have at least one IU and one Purdue investigator.
- IUSM: All faculty at or above the Assistant Professor level; all research professors; all clinical faculty (assuming they meet all other eligibility criteria)
- Purdue: All tenured or tenure-track West Lafayette faculty at or above the Assistant Professor level; all research professors; all clinical faculty; Non-faculty approved must seek approval from the Dean of the College of Agriculture (assuming they meet all other eligibility criteria)

Scientific Proposal: (max 3 pages, not including references)

- Please include relevant background, Specific Aims, and a brief description of methods, including a discussion of pitfalls and alternatives. Preliminary data is not required, but it will be accepted.

Milestones and Deliverables:

- Elucidate how the venture will pave the way for potential future funding prospects.
- Detail expected outcomes for the project, including a plan for submission of external funding applications. (max 1 page)

Budget:

- A detailed breakdown of the anticipated expenses for the project, including personnel salaries, equipment costs, travel expenses, and any other relevant costs.

Budget (template provided – next page)

Additional Pages Requirements

- **Key Personnel**
- **Other Support** for each key personnel
- **NIH Biosketch** for each key personnel in new format, limited to 5 pages each
- **Description of Facilities and Resources** available to the applicant
- **Approved current institutional vertebrate animal care form** (if applicable)
- **Approved current institutional human subjects selection criteria form** (if applicable)
- **Supporting documentation** (if applicable)
  - 5 page limit
  - Could include but not limited to manuscript text, abstracts, links, unique figures, etc.

*Submission Deadline and Contact Details:*

Applications will be accepted up to **September 12, 2024, PM**. Application requirements should be submitted via the CTSI WebCAMP portal.

**UPLOAD** via the **Start a Submission** [CTSI CDMD Nutrition Link](#)

If awarded, this will be considered internal funding for both IU and Purdue applicants and submission does not require prior approval from ORA or Purdue Pre-Award prior to submitting through WebCAMP

Funding is anticipated to start on January 1, 2025.

For any queries, please don't hesitate to get in touch with Senay Simsek ([ssimsek@purdue.edu](mailto:ssimsek@purdue.edu)) or Carmella Evans-Molina ([CDMD@iu.edu](mailto:CDMD@iu.edu)). The Center for Diabetes and Metabolic Disease and Indiana Diabetes Research Center will be hosting a 10<sup>th</sup> annual Diabetes Day Symposium on August 9<sup>th</sup>, where we welcome interested investigators to attend for networking opportunities. More information on the symposium can be found here: [Diabetes Symposium | Center for Diabetes and Metabolic Diseases | IU School of Medicine](#).

## **Budget and Justification Template**

### **A. Purdue Budget**

**Personnel** (acceptable personnel include technicians, research staff, and students. Faculty salary should not exceed 10% of total budget allowed)

**Supplies** (Specify expected reagents and supplies cost and quantities)

**Core Facilities Usage** (included hourly rates, expected hours, etc.)

**Travel** (The travel budget proposed must be clearly specified for how it relates to the proposed project)

### **B. IU Budget**

**Personnel** (acceptable personnel include technicians, research staff, and students. Faculty salary should not exceed 10% of total budget allowed)

**Supplies** (Specify expected reagents and supplies cost and quantities)

**Core Facilities Usage** (included hourly rates, expected hours, etc.)

**Travel** (The travel budget proposed must be clearly specified for how it relates to the proposed project)

Principal Investigator (Last, first, middle):

**YEAR 1**

<b>DETAILED BUDGET FOR YEAR 1 BUDGET PERIOD</b>					FROM	THROUGH	
<b>DIRECT COSTS ONLY</b>					January 1, 2025	January 1, 2026	
<i>PERSONNEL (Applicant organization only)</i>		TYPE APPT. <i>(months)</i>	% EFFORT ON PROJ.	INST. BASE SALARY	<i>DOLLAR AMOUNT REQUESTED (omit cents)</i>		
NAME	ROLE ON PROJECT				SALARY REQUESTED	FRINGE BENEFITS	TOTAL
	Principal Investigator						
	Collaborator						
<b>SUBTOTALS</b> →							
CONSULTANT COSTS							
SUPPLIES							
TRAVEL							
PATIENT CARE COSTS							
OTHER EXPENSES							
<b>TOTAL DIRECT COSTS FOR YEAR 1 BUDGET PERIOD</b>							

BUDGET JUSTIFICATION: