

Supplementary Information for Artificial Intelligence in Food and Nutrition Evidence: The Challenges and Opportunities

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Tables S1 to S2

Table S1. Participant List for “Artificial Intelligence and Machine Learning in Evidence Synthesis and Evidence Generation in Food and Nutrition.”

Participant	Affiliation
David B. Allison	Indiana University, Bloomington
Regan Bailey	Texas A&M Institute for Advancing Health Through Agriculture
Sergio Baranzini	University of California, San Francisco
Andrew Bremer	National Institutes of Health
Lisa Bodnar	University of Pittsburgh
Alexandra Cowan-Pyle	Texas A&M Institute for Advancing Health Through Agriculture
Cindy Davis	USDA, Agricultural Research Service
Janet de Jesus	U.S. Department of Health and Human Services
Kristen Edwards	Massachusetts Institute of Technology
Laural English	United States Department of Agriculture
Martha Field	Cornell University
Sheila Fleischhacker	USDA, National Institute of Food and Agriculture
Jim Kennedy	MARS Advanced Research Institute
Amanda MacFarlane	Texas A&M Agriculture, Food, & Nutrition Evidence Center
Konstantinos Markakis	University of California, Davis
Lynnette Neufeld	Food and Agriculture Organization of the United Nations
Holly Nicaastro	National Institutes of Health
Stefan Pasiakos	Office of Dietary Supplements
Andrea Ramirez	National Institutes of Health
Christopher Rose	Norwegian Institute of Public Health
Nicholas Schork	The Translational Genomics Research Institute (TGen)
Akshat Singhal	University of California, San Diego
Maureen Spill	Texas A&M Agriculture, Food, & Nutrition Evidence Center
Pam Stark-Reed	USDA, Nutrition, Food Safety, and Quality
Eve Stoodly	United States Department of Agriculture
Patrick Stover	Texas A&M Institute for Advancing Health Through Agriculture
Ilias Tagkopoulos	University of California, Davis, USDA AI Institute for Food Systems
Jane Van Doren	Center for Food Safety and Applied Nutrition, Food and Drug Administration, Department of Health and Human Service
Jan-Willem van Klinken	Brightseed
Meera Viswanathan	RTI International
Byron Wallace	Northeastern University
Jian Yan	Bill and Melinda Gates Foundation

Table S2. Agenda for “Artificial Intelligence and Machine Learning in Evidence Synthesis and Evidence Generation in Food and Nutrition.”

Artificial Intelligence and Machine Learning in Evidence Synthesis and Evidence Generation in Food and Nutrition

Washington D.C.
February 7-9, 2024

Coordinated by the Texas A&M Institute for Advancing Health Through Agriculture,
University of California, Davis AI Institute for Next Generation Food Systems, and the
National Academy of Sciences, Engineering and Medicine (NASEM)
With Funding Provided from a Bill and Melinda Gates Foundation Grant

Wednesday, February 7	(Location: Lincoln Restaurant, 1110 Vermont Avenue NW)
6:00 PM	Sponsored Dinner
Thursday, February 8	(Location: NASEM, 2101 Constitution Avenue NW)
8:00-8:45 AM	Breakfast
8:45-9:00 AM	Welcome Remarks and Introduction to the Symposium <i>Regan Bailey, Texas A&M Institute for Advancing Health Through Agriculture</i>
(9:00-11:25 AM)	Session 1: Current state and prospects for AI/ML and big data in generating high quality scientific evidence for decision making. <i>Session Chair, Amanda MacFarlane</i>
9:00-9:30 AM	“AI, Data Sparsity, Digital Twins, and Personalized Nutrition” <i>Nicholas J. Schork, The Translational Genomics Research Institute (TGen)</i>
9:30-10:00 AM	"A knowledge graph approach to represent causal connections between food and health" <i>Sergio Baranzini, University of California, San Francisco</i>
10:00-10:05	Opportunities through AI-derived evidence for Bioactives <i>Jan-Willem van Klinken</i>
10:05-10:25 AM	BREAK
10:25-10:55 AM	“Evidence Synthesis in Food Systems: A farm-to-fork approach” <i>Ilias Tagkopoulus, University of California, Davis</i>
10:55-11:25 AM	“Cancer drug response models: interpretation, translation, and evaluation” <i>Akshat Singhal, University of California, San Diego</i>
11:25 AM-12:15 PM	Speaker Panel Discussion (<i>Facilitated by Amanda MacFarlane</i>)
12:15-1:15 PM	Lunch
(1:15-2:50 PM)	Session 2: Current state and prospects for the use of AI/ML in accelerating the process of reviewing and synthesizing scientific evidence. <i>Session Chair, Amanda MacFarlane</i>
1:15-1:45 PM	“ADVISE: Accelerating the Creation of Evidence Syntheses for Global Development using Natural Language Processing-supported Human-AI Collaboration” <i>Kristen M. Edwards, Massachusetts Institute of Technology</i>

1:45-2:15 PM	“Extracting and Synthesizing Medical Evidence with LLMs” <i>Byron Wallace, Northeastern University</i>
2:15-2:45 PM	“What do we know about the effect of AI/ML on evidence synthesis in medicine, public health, and welfare, and how should we shape the future?” <i>Christopher James Rose, Norwegian Institute of Public Health</i>
2:45-2:50 PM	All of Us Research Program <i>Andrea Ramirez</i>
2:50-3:10 PM	BREAK
3:10-4:00 PM	Speaker Panel Discussion (<i>Facilitated by Amanda MacFarlane</i>)
4:00-4:45 PM	Short Presentations from Discussants

Role of systematic reviews in the DRI process: riboflavin case study
Martha Field

AI/ML Evidence Synthesis Processes used by the USDA Nutrition Evidence Systematic Review (NESR)
Laural English

The world we want tomorrow starts with how we do business today
Jim Kennedy

Using AI and ML to advance dietary supplements and nutrition research at the National Institutes of Health
Stefan Pasiakos

AI/ML Research from the Department of Defense
Stefan Pasiakos

ML-Driven Analysis using CAB Abstracts and the Global Public Health database to Identify Significant Research Gaps with Emphasis on Outcomes Related to International Development
Jaron Porciello

Dietary patterns and pregnancy outcomes
Lisa Bodnar

4:45 PM

ADJOURN

Friday, February 9

(Location: NASEM, 2101 Constitution Avenue NW)

8:00-8:45 AM

Breakfast

8:45-10:15 AM

All Attendee Discussion (*Facilitated by Regan Bailey and Patrick Stover*)

10:15-10:30

BREAK

10:30-11:15 AM

All Attendee Discussion (*Facilitated by Regan Bailey and Patrick Stover*)

11:15-11:30 AM

Closing Remarks

11:30 AM

MEETING ADJOURNS
