

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

Washington D.C.  
February 8-9, 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 Academies of Sciences, Engineering, and Medicine  
*With Funding Provided from a Bill and Melinda Gates Foundation Grant*

**Thursday, February 8** (Location: NAS Building, 2101 Constitution Avenue NW, Washington, DC)

8:00-8:45 AM	Breakfast
8:45-9:00 AM	Welcome Remarks and Introduction to the Symposium <i>Regan Bailey, Texas A&amp;M Institute for Advancing Health Through Agriculture</i>
(9:00-11:25 AM)	<b>Session 1: Current state and prospects for AI/ML and big data in generating high quality scientific evidence for decision making.</b> <i>Session Chair, Amanda MacFarlane</i>
9:00-9:30 AM	<b><u>"AI, Data Sparsity, Digital Twins, and Personalized Nutrition"</u></b> <i>Nicholas J. Schork, The Translational Genomics Research Institute (TGen)</i>
9:30-10:00 AM	<b><u>"A knowledge graph approach to represent causal connections between food and health"</u></b> <i>Sergio Baranzini, University of California, San Francisco</i>
10:00-10:05	<b>Opportunities through AI-derived evidence for Bioactives</b> <i>Jan-Willem van Klinken</i>
10:05-10:25 AM	BREAK
10:25-10:55 AM	<b><u>"Evidence Synthesis in Food Systems: A farm-to-fork approach"</u></b> <i>Ilias Tagkopoulos, University of California, Davis</i>
10:55-11:25 AM	<b><u>"Cancer drug response models: interpretation, translation, and evaluation"</u></b> <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)	<b>Session 2: Current state and prospects for the use of AI/ML in accelerating the process of reviewing and synthesizing scientific evidence.</b> <i>Session Chair, Amanda MacFarlane</i>
1:15-1:45 PM	<b><u>"ADVISE: Accelerating the Creation of Evidence Syntheses for Global Development using Natural Language Processing-supported Human-AI Collaboration"</u></b> <i>Kristen M. Edwards, Massachusetts Institute of Technology</i>

1:45-2:15 PM	<b><u><a href="#">“Extracting and Synthesizing Medical Evidence with LLMs”</a></u></b> <i>Byron Wallace, Northeastern University</i>
2:15-2:45 PM	<b><u><a href="#">“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?”</a></u></b> <i>Christopher James Rose, Norwegian Institute of Public Health</i>
2:45-2:50 PM	<b>All of Us Research Program</b> <i>Andrea Ramirez</i>
2:50-3:10 PM	<b>BREAK</b>
3:10-4:00 PM	Speaker Panel Discussion (Facilitated by Amanda MacFarlane)
4:00-4:45 PM	Short Presentations from Discussants
	<b>Role of systematic reviews in the DRI process: riboflavin case study</b> <i>Martha Field</i>
	<b>AI/ML Evidence Synthesis Processes used by the USDA Nutrition Evidence Systematic Review (NESR)</b> <i>Laural English</i>
	<b>The world we want tomorrow starts with how we do business today</b> <i>Jim Kennedy</i>
	<b>Using AI and ML to advance dietary supplements and nutrition research at the National Institutes of Health</b> <i>Stefan Pasiakos</i>
	<b>AI/ML Research from the Department of Defense</b> <i>Stefan Pasiakos</i>
	<b>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</b> <i>Jaron Porciello</i>
	<b>Dietary patterns and pregnancy outcomes</b> <i>Lisa Bodnar</i>
4:45 PM	ADJOURN

**Friday, February 9** (Location: NAS Building, 2101 Constitution Avenue NW, Washington, DC)

8:00-8:45 AM	Breakfast
8:45-10:15 AM	All Attendee Discussion ( <i>Facilitated by Regan Bailey and Patrick Stover</i> )
10:15-10:30	<b>BREAK</b>
10:30-11:15 AM	All Attendee Discussion ( <i>Facilitated by Regan Bailey and Patrick Stover</i> )
11:15-11:30 AM	Closing Remarks
11:30 AM	Meeting adjourns