

# Jessica K. Wallingford

Doctoral Candidate

*Friedman School of Nutrition Science and Policy, Tufts University*

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• 🏠 jesskwallingford.github.io

• Canadian citizen

**Expertise:** data analysis; data visualization; food security; food systems; health economics; health equity

## EDUCATION

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**Tufts University, Friedman School of Nutrition Science and Policy** | Boston, MA/USA

PhD, Agriculture, Food and Environment (2020–2025), with specialization in food policy

Committee: William A. Masters (chair); Elena Naumova; Amelia B. Finaret

**Tufts University, Friedman School of Nutrition Science and Policy** | Boston, MA/USA

MS, Agriculture, Food and Environment (2017–2019), with specialization in economic and geospatial data analysis

**McMaster University** | Hamilton, ON/Canada

MS, Neuroscience (2014–2016)

**Dalhousie University** | Halifax, NS/Canada

BSc, Combined Honours, Neuroscience, Biochemistry & Molecular Biology (2009–2013)

## AWARDS AND FELLOWSHIPS

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2020 Friedman Nutrition and Citizenship Fellowship, Tufts University

2020 Social Sciences and Humanities Research Council Doctoral Fellowship, Government of Canada

2020 Joseph-Armand Bombardier Canada Graduate Scholarship, Government of Canada (*awarded and declined*)

2017 Scholarship Fund for Nutrition Studies, Tufts University

## RESEARCH & WORK EXPERIENCE

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**Tufts University** | Boston, MA/USA

Graduate Researcher (2020–present) – Food Prices for Nutrition (PI: William A. Masters)

- Developing novel visualizations using the latest data on the cost and affordability of healthy diets—a suite of indicators developed by the Food Prices for Nutrition Project and used in global food security monitoring by the World Bank and the Food and Agriculture Organization of the United Nations—to showcase core results from the Food Prices for Nutrition project.
- Dissertation near completion investigating inequities in food-related time use and how different food-related time use patterns relate to diet quality and health outcomes. This research uses a large dataset combining 20 years of American Time Use Survey diary data covering 211,000+ respondents. Analysis employs sequence and cluster analysis (an unsupervised machine learning approach) with parallel computing conducted on the High Performance Computing Cluster at Tufts University.
- Developing innovative static and dynamic data visualizations with time use diary data using R, Stata, and various web applications.

**Organization for Economic Co-operation and Development (OECD)** | Paris/France

Consultant (2019–2020) – Trade and Agriculture Directorate (TAD)

- Developed a case study of the processed food sector as part of TAD's work on food systems and the 'triple challenge' (i.e., food security and nutrition, resource use and climate change mitigation, and livelihoods of farmers and other agents connected to the food system).
- Developed a database of international and domestic food and agricultural policies induced by COVID-19.

#### **Global Panel on Agriculture and Food Systems for Nutrition** | Remote work

Consultant (2019)

- Analyzed newly available Global Dietary Database estimates of dietary factor intake and generated data visualizations using Stata and ArcMap. These analyses were commissioned in preparation for the Global Panel's second Foresight Report.

#### **Tufts University** | Boston, MA/USA; Lilongwe/Malawi

Graduate Researcher (2018–2019) – Food Quality and Child Diets in Central Malawi (PI: William A. Masters)

- Fieldwork and data analysis for 350+ market-intercept surveys with random-price auctions and choice experiments, linked to purchase and laboratory analysis of 90+ samples of infant foods. Results presented at ASN & ICABR meetings.

#### **McMaster University** | Hamilton, ON/Canada

Graduate Researcher (2014–2016)

- Researched the role of astrocyte-secreted factors in development and within the context of Fragile X syndrome using molecular, cellular, and imaging techniques, generating data leading to the annual renewal of a 5-year \$2.5 million research grant (PI: Laurie C. Doering).
- Managed laboratory operations including equipment purchasing, inventory maintenance, documenting animal colonies, preparing and updating protocols, and training new laboratory members.

### **TEACHING EXPERIENCE**

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#### **Tufts University** | Boston, MA/USA

Teaching Assistant (2018–2021)

- Statistics for Health Professionals I & II (NUTB-0250 & NUTB-0350)
- Economics for Food and Nutrition Policy (NUTB-0238 & NUTR-0238)
- Introductory Human Nutrition (NU-0101)

#### **McMaster University** | Hamilton, ON/Canada

Teaching Assistant (2014–2016)

- Human Health and Disease (HTH SCI 1G03)
- Psychobiology (Life Sci 3A03)

#### **Guest Lectures**

Simple and multiple logistic regression (Spring 2021)

Course: NUTB-350—Statistical Methods for Health Professionals II (Tufts University)

Data visualization in Excel (Spring 2018)

Course: NUTR-0238—Economics for Food and Nutrition Policy (Tufts University)

### **PUBLICATIONS** (Google scholar: <https://tinyurl.com/24y7kpnk>)

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#### **Peer-reviewed journal articles**

Masters, W.A., **Wallingford, J.K.**, Herforth, A.W., Bai, Y. (2025). Measuring food access as affordability of least-cost healthy diets worldwide. (*Forthcoming in Agricultural Economics*). (VeriXiv preprint available at <https://doi.org/10.12688/verixiv.97.1>)

- Wallingford, J.K.,** Masters, W.A. (2025). Least-cost diets to teach optimization and consumer behavior, with applications to health economics, poverty measurement and international development. *The Journal of Economic Education*, 56:2. doi: <https://doi.org/10.1080/00220485.2025.2465384>. (arXiv preprint available at <https://doi.org/10.48550/arXiv.2312.11767>)
- Wallingford, J.K.,** de Pee, S., Herforth, A.W., Kuri, S., Bai, Y., Masters, W.A. (2024). Measuring food access using least-cost diets: Results for global monitoring and targeting of interventions to improve food security, nutrition and health. *Global Food Security*, 41:100771. doi: 10.1016/j.gfs.2024.100771
- Wallingford, J.K.,** Martinez, E.M., Masters, W.A. (2023). COVID-19 mobility restrictions and stay-at-home behaviour in 2020 were associated with higher retail food prices worldwide. *Global Food Security*, 37:100702. doi: 10.1016/j.gfs.2023.100702
- Wallingford, J.K.,** Scott, A.L., Rodrigues, K., Doering, L.C. (2017). Altered developmental expression of the astrocyte-secreted factors hevin and SPARC in the fragile X mouse model. *Frontiers in Molecular Neuroscience*, 10:268. doi: 10.3389/fnmol.2017.00268
- Wallingford, J.K.,** Deurveilher, S., Currie, R.W., Fawcett, J.P., Semba, K. (2014). Increases in mature brain-derived neurotrophic factor protein in the frontal cortex and basal forebrain during chronic sleep restriction in rats: possible role in initiating allostatic adaptation. *Neuroscience*, 277:174-183. doi: 10.1016/j.neuroscience.2014.06.067

#### Working papers, reports, briefs

- Wallingford, J.K.,** de Pee, S., Herforth, A.W., Kuri, S., Bai, Y., Gilbert, R.D., Masters, W.A. (2024). Using food prices to calculate least-cost healthy and nutrient adequate diets helps inform social protection efforts worldwide. *Policy in Focus*, Vol. 1, No. 1: 52-55. Brasília: World Food Programme (WFP) and the Institute for Applied Economic Research, Government of Brazil. <https://tinyurl.com/yc5cnhe2>
- OECD (2021), “The contribution of the processed food sector to the triple challenge” (lead author: **Wallingford, J.K.**), in Making Better Policies for Food Systems, OECD Publishing, Paris. doi: 10.1787/ddfba4de-en
- Gilbert, R., Subedi, B., **Wallingford, J.K.**, Wilson, N., Masters, W.A. (2019). Nutrient and mycotoxin content of commercially sold premixed infant cereals in Malawi. MaSSP Working Paper 28. Washington, DC: International Food Policy Research Institute (IFPRI). doi: 10.2499/p15738coll2.133335

#### Manuscripts in progress

- Masters, W.A., **Wallingford, J.K.**, Gilbert, R., Martinez, E., Bai, Y., Sokourenko, K., Herforth, A. (2025). Are healthy foods affordable? The past, present, and future of measuring food access using least-cost diets. (*Invitation to revise and resubmit to Annual Review of Resource Economics*)

#### PRESENTATIONS, POSTERS

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- Wallingford, J.K.** Daily time use patterns of foodwork and food consumption in the United States from 2003 to 2022. (*accepted to present*). Time Use Conference 2025: Time Use as a Social Determinant of Health. April 2025, College Park, MD, USA.
- Wallingford, J.K.,** Sadik, O., Gilbert, R. Cost and affordability of healthy diets: Insights from global monitoring and country-level analysis in Nigeria. (*oral presentation*) Agriculture, Nutrition and Health Academy Research Community on Food Access. September 2024, virtual.

**Wallingford, J.K.** Measuring food security as access to healthy diets: Recent evidence and new frontiers. (*Invited paper session, oral presentation*) 2024 Agricultural & Applied Economics Association (AAEA) Annual Meeting. July 2024, New Orleans, LA, USA.

**Wallingford, J.K.** Time use trends in foodwork and food consumption from 2003 to 2022 in the United States. (*Lightning session, oral presentation*) 2024 Agricultural & Applied Economics Association (AAEA) Annual Meeting. July 2024, New Orleans, LA, USA.

**Wallingford, J.K.** What do least-cost nutrient adequate diets reveal about food systems? (*oral presentation*) Tufts Nutrition Data Symposium. March 2023, virtual.

**Wallingford, J.K.** COVID-19 and food systems worldwide: linking retail food prices to variation in personal mobility and policy stringency. (*oral presentation*) Tufts Institute for Global Obesity Research (TIGOR) Lightning Talks, December 2021, virtual.

**Wallingford, J.K., Masters, W.A.** Stringency of COVID-19 mobility restrictions are associated with elevated retail food prices: evidence from 150 countries. (*Selected paper, oral presentation*) 2021 Agricultural & Applied Economics Association (AAEA) Annual Meeting. August 2021, Austin, TX, USA.

**Wallingford, J.K., Masters, W.A.** Stringency of movement restrictions linked with higher retail food prices but not overall prices for all consumer goods during COVID-19 pandemic. (*oral presentation*) Nutrition 2021. June 2021, virtual.

**Wallingford, J.K.** Stringency of COVID-19 movement restrictions are associated with elevated retail food prices: evidence from 133 countries. (*oral presentation*) Tufts Nutrition Data Symposium. March 2021, virtual.

## MEMBERSHIPS IN PROFESSIONAL SOCIETIES

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Agricultural and Applied Economics Association (AAEA)

American Society for Nutrition (ASN)

American Public Health Association (APHA)

Agriculture, Nutrition and Health (ANH) Academy Food Access Research Community

Sequence Analysis Association (SAA)

## SERVICE

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### Academic service

- Reviewer for the following journals: *Maternal and Child Nutrition*, *World Development*
- External reviewer for publication in the Food and Agriculture Organization of the United Nations Statistics Division Working Paper Series (Fall 2024)
- Technical reviewer and contributor for paper from Save the Children (Spring 2024): Chui, J. and Donnelly, A. *Methods to Assess the Cost and Affordability of Nutrition and Healthy Diets. Summary of Assessment Methods*. Save the Children, LSHTM, Tufts University, UCL, WFP. 2024.
- AAEA Access Taskforce, focus group participant (Spring 2024)
- Tufts University Friedman School, Biostatistics Faculty Search Committee, student member (Fall 2020)

## Community service

- **Nourri-Source Montréal**, breastfeeding support volunteer (April 2024–present):
  - Support parents in Montréal to meet the nutritional needs of their infants
  - Completed 13.5-hour breastfeeding support volunteer training; provide bilingual (French and English) breastfeeding resources and support to new parents one-on-one and through free breastfeeding drop-in clinics (haltes-allaitement) in partnership with the centre local de services communautaires (CLSC).
- **Frontier College Halifax**, literacy and math volunteer (2013–2014):
  - Developed learning activities on a weekly basis, accessible to students with a diversity of skill levels and backgrounds, including elementary school, high school, and ESL students.

## SKILLS

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### Software, web-based platforms, and web development:

Stata, R, ArcGIS, Excel, Quarto (for web development), GitHub

### Languages:

English (native)

French (intermediate)

- French language study: École d'été d'immersion en français, intermédiaire (B1), Université de Montréal, July 2017. (Intermediate-level French immersion program covering all linguistic capacities).