

# Elisa N. L. Karkle, Ph.D.

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## EDUCATION

- **PhD in Grain Science (2011)**  
Kansas State University, Manhattan, KS. GPA:4.0
- **M.Sc. in Food Science (2006)**  
Londrina State University, Londrina, PR Brazil. With distinction.
- **Bachelor of Science in Human Nutrition (2004)**  
Parana Federal University, Curitiba, PR Brazil.
- **Certified Baking Technologist (2011)**  
AIB International, Manhattan, KS.

## CURRENT POSITION

- **Assistant Professor – Bakery Science** Fall 2021- present  
*Department of Grain Science and Industry- Kansas State University, Manhattan, KS.*  
Teaching, research and outreach in the field of Baking Science. Co-advisor for the Bake Club.

## PROFESSIONAL EXPERIENCE

- **Research and Development Committee Head** 2018- 2021  
*PMAN Guarulhos, São Paulo Brazil.*  
Technical-scientific support for new product and process development applied to bakery ingredients. Management of a team of committee members in US and Germany, and research team in Brazil. Noteworthy projects include on-going implantation of liquid sourdough plant, encapsulated preservatives plant and development of dry sourdough product line enriched with vitamin D. Frequently conduct technical training meetings for internal and external clients.
- **Head Nutritionist** 2013- 2021  
*Interpares Educação Infantil Curitiba, Paraná Brazil.*  
Planning, supervision and evaluation of school nutrition program. Responsible for nutritional assessment of students, nutritional education included in school curriculum, continual training of teachers and kitchen staff, and meal planning. Pioneer in application of baby-led-weaning and responsive feeding strategies in school environment. Successful obesity reduction project with extensive coverage in local media.
- **Baking Instructor** 2012-2015  
*AIB International*  
Taught baking technology seminars in Brazil, USA, Mexico and Costa Rica (classroom and practical modules). Participants included management, technical and sales professionals from major local and multinational bread companies.
- **Research and Development Manager** 2011  
*J.R. Short Milling Company, Kankakee, IL*  
Largest extruded pellet company in USA. Responsible for pilot plant prototype development, technology transfer and technical support for production and sales.

- **Substitute Professor – Public Health Nutrition** 2006-2007  
Department of Nutrition, Parana Federal University, Brazil  
-Nutritional Assessment - delivered lectures, guided labs (anthropometry, food intake instruments); co-organized and guided field studies (nutritional assessment of children in underprivileged communities)  
-Mother-child Nutrition – delivered lectures, supervised students in practical ambulatory care in a public health care center.  
-Nutritional Education – delivered lectures using varied formats (movies, discussion groups, self history).

## RESEARCH/TEACHING ASSISTANT POSITIONS AND INTERNSHIPS

- **Graduate Research Assistant** 2007–2010  
Extrusion Laboratory, Kansas State University  
Development and evaluation of fruit and vegetable-based snacks (instrumental texture analysis, XMT, DSC; sensory analysis and food intake questionnaires in population of Manhattan middle school children).
- **Teaching Assistant** (GRSC 910) Fall 2008  
GRSC 720 Extrusion Processing in Food and Feed Industries  
Assisted with conduction of 15 lab sessions on pilot scale extruders, taught lectures on extrudate measurements, grading.
- **Food Technology Intern – Cargill Inc.** Summer 2009  
Global Food Research / Specialty Canola Oils, Wayzata, MN  
Functionality of fats applied to pie crusts (processing, texture analysis, ingredient interactions).
- **Undergraduate Research Assistant** 2001–2004  
Department of Nutrition, Parana Federal University, Brazil  
- Development of protein hydrolysates low in phenylalanine (protein hydrolysis, nitrogen analysis)  
- Evaluation of tomatoes cultivated under organic and conventional systems (pesticide residue analysis, texture analysis, sensory analysis).

## PUBLICATION - TECHNICAL DOCUMENT

- Karkle, ENL, 2019. Process and ingredient options to increase the nutritional value of bread. Sociedade Brasileira de Alimentação e Nutrição (SBAN).

Published as an industry-supported technical document in name of the Brazilian Society for Food and Nutrition. Provides professionals with high-quality information on how to develop nutritionally enhanced breads beyond the typical label claims. None of this information was previously available in Portuguese.

## PUBLICATIONS - PEER-REVIEWED

- Karkle, EL; Alavi, A; Dogan, H. 2012. Cellular architecture and its relationship with mechanical properties in expanded extrudates containing apple pomace. Food Research International. 46(1):10-12
- Karkle, EL, Keller, L; Dogan, H; Alavi, S. 2012. Matrix transformation in fiber-added extruded products: Impact of different hydration regimens on texture, microstructure and digestibility. Journal of Food Engineering, 108(1):171-182

- Karkle, ENL; Beleia, A. 2010. Effect of soaking and cooking on phytate concentration, minerals, and texture of food-type soybeans. *Ciência e Tecnologia de Alimentos*. 30(4):1056-1060.
- Ferreira, SMR; Quadros, DA; Karkle, ENL; Lima, JJ; Tullio, LT; Freitas, RJS 2010. Qualidade pós-colheita do tomate de mesa convencional e orgânico. *Ciência e Tecnologia de Alimentos*. 30(4):858-864
- Ferreira, SMR; Freitas, RJS; Karkle, ENL; Quadros, DA; Tullio, LT; Lima, JJ. 2010. Qualidade do tomate de mesa cultivado nos sistemas convencional e orgânico. *Ciência e Tecnologia de Alimentos*. 30(1):224-230.
- Bertin, RL; Karkle, EL; Ulbrich, AZ et al. 2008. Estado nutricional e consumo alimentar de adolescentes da rede pública de ensino da cidade de São Mateus do Sul, Paraná, Brasil. *Revista Brasileira de Saúde Materno Infantil*. 8:435-443.
- Tullio, LT; Karkle, EL; Candido, LMB. 2007. Review: Isolation and purification of milk whey glycomacropeptide. *Boletim do CEPPA*, 25:121-132.
- Ferreira, SMR; Freitas, RJS; Lazzari, EN 2004. Padrão de identidade e qualidade do tomate (*Lycopersicon esculentum* Mill.) de mesa. *Ciência Rural*. 34:329-335.
- Ferreira, SMR; Freitas, RJS; Lazzari, EN (2003) Defects of tomatoes (*Lycopersicon esculentum* Mill.), *Food Hygiene*, v.17.

## **ORAL AND POSTER PRESENTATIONS**

- Karkle EL; Brand C; Campos D. 2019. Your Nutritionist: beyond what you imagine. 12th Seminar/2nd Childhood Education Municipal Forum. 6-9/11/2019, Curitiba, Brazil. (oral communication)
- Karkle, EL. 2019. Process and ingredient options to increase the nutritional value of bread. 15th National Congress of the Brazilian Society for Food and Nutrition (SBAN), 28-30/8/2019, Sao Paulo, Brazil. (oral, satellite symposium)
- Karkle EL; Alavi S; Dogan H; Keller L. 2011. Extent of matrix transformation in fiber-added extrudates under different hydration regimens and impact on texture, microstructure and digestibility. IFT Annual Meeting and Expo, 11-14/6/2011, New Orleans. (poster)
- Karkle EL; Alavi S; Dogan H; Shi YC; Keller L. 2010. Impact of cellular architecture and solid matrix properties on the texture of high fiber expanded foods. AACC Intl Annual Meeting, 24-27/10/2010, Savannah. (oral, by Hulya Dogan)
- Karkle EL; Alavi S. 2009. Process optimization of extruded snacks containing fruit fiber. IFT Annual Meeting and Expo, 6-9/6/2009. Anaheim. (poster)
- Karkle EL; Jain S; Waghay K; Alavi S; Dogan H. 2008. Development and evaluation of fruit and vegetable-based extruded snacks. AACC International Annual Meeting, 21-24/9/2008. Honolulu. (oral)
- Lazzari EN; Perseguelo FM; Beleia A. 2005. Cinética de cocção de seis variedades de soja para consumo humano. Simpósio Latinoamericano de Ciência de Alimentos, 7-10/11/2005. Campinas, Brazil. (poster)
- Lazzari EN; Monteiro LTB; Candido LMB; Dyminski D; Domingos M; Yoshizawa N. 2003. Desenvolvimento de uma formulação protéica com níveis reduzidos de fenilalanina. Simpósio Latinoamericano de Ciência de Alimentos, 3-6/11/2003. Campinas, Brazil. (poster)

## **PUBLICATION PROCESS – REVIEWER**

- Food Research International (Impact factor: 4,972)  
Applied expertise in subject matter and meticulous judgment of scientific quality under the key-words baking, extrusion, fiber and starch. Completed 19 review assignments (2011-present).

## **PRIZES & AWARDS**

- 3<sup>rd</sup> place - class #179, AIB International (Manhattan, KS)
- IFT Foundation Scholarship – 2010-2011. The Institute of Food Technologists Foundation (Chicago, IL).
- Cargill Diversity Internship Scholarship – 2009. Cargill Diversity Internship Program. Cargill Incorporated (Wayzata, MN).
- Majel M. McMasters Memorial Achievement Award – 2009. Kansas State University (Manhattan, KS).
- Graduate Student Council Travel Award – Fall 2009 and Fall 2010. Kansas State University (Manhattan, KS).
- AACC International Travel Award – 2008.
- 3<sup>rd</sup> place - 2008 K-State Research Forum, Poster session (Manhattan, KS).
- 2<sup>nd</sup> place – 2003 Undergraduate Research Forum, Parana Federal University (Brazil), Oral and poster presentation.
- 1<sup>st</sup> place – 2002 Undergraduate Research Forum, Parana Federal University, (Brazil), Oral and poster presentation.

## **MEMBERSHIPS**

- American Society for Nutrition (2018-present)
- Brazilian Society of Food and Nutrition (SBAN) (2018-present)
- AACC International (Jun 2008-2012)  
Secretary for the AACC International Student Division board 2008-2009.
- Institute of Food Technologists (2009-2012)
- Grain Science Graduate Student Organization (2008-2011)  
Vice-President term 2008-2009

## **OTHERS**

- Experienced technical translator. Documents, presentations and meetings in English, Portuguese and Spanish. Simultaneous translation of IGP Extrusion Short Courses.
- Samples of media coverage of obesity reduction program and responsive feeding practices (in Portuguese):  
<https://www.youtube.com/watch?v=7FxKuvB6tTE> ;  
[http://g1.globo.com/pr/parana/paranativ-1educacao/videos/t/curitiba/v/obesidade-estudo-revela-que-15-dos-alunos-das-escolas-municipais-estao-acima-do-peso/6725399/?mais\\_vistos=1](http://g1.globo.com/pr/parana/paranativ-1educacao/videos/t/curitiba/v/obesidade-estudo-revela-que-15-dos-alunos-das-escolas-municipais-estao-acima-do-peso/6725399/?mais_vistos=1);  
<https://www.youtube.com/watch?v=uH1gtCyEftg> (starts at 26:00 min).