

Dr. Lavaraj Devkota
Chemical & Biological Engineering
Email: Lavaraj.Devkota1@monash.edu
Website: <https://research.monash.edu/en/persons/lavaraj-devkota>



Biography

Lavaraj completed his PhD from the department of Chemical engineering at Monash University in 2021 under the Food and Dairy graduate research industry partnership (GRIP) PhD program. During his PhD years he worked alongside his industry partner (Simplot Australia Pty. Ltd.) in investigating the legume hydration and evaluating nutraceutical by-products during industrial legume processing.

Lavaraj also holds a Masters degree in Food Engineering and Bioprocess Technology from the Asian Institute of Technology, Thailand and a Bachelor of Dairy Technology degree from Purbanchal university, Nepal. Lavaraj brings his two years of dairy industry experience along with several years of multidisciplinary research expertise in electrochemical sensor development, food waste utilization, novel food processing technologies and functional foods.

Lavaraj likes to work at the interface between academia and industry and bring innovative ideas to life. His current and past industry engagement involves companies like Simplot Australia Pty Ltd, Archer-Daniels-Midland (ADM, USA) and Kraft Heinz ANZ.

Qualifications

Chemical Engineering, PhD, MONASH UNIVERSITY

... → 2021

Food Engineering and Bioprocess Technology, M.Sc., Asian Institute of Technology

... → 2016

Food and Dairy Technology, B.Tech., Purbanchal University

... → 2012

Employment

Research Fellow

Chemical & Biological Engineering

MONASH UNIVERSITY

1 Aug 2022 → present

Research outputs

Degradation of starch in pasta induced by extrusion below gelatinization temperature

Jia, B., Devkota, L., Sissons, M. & Dhital, S., 15 Nov 2023, In: Food Chemistry. 426, 11 p., 136524.

Plant cell wall composition modulates the gut microbiota and metabolites in in-vitro fermentation

Xiong, W., Devkota, L., Flanagan, B. M., Gu, Z., Zhang, B. & Dhital, S., 15 Sept 2023, In: Carbohydrate Polymers. 316, 15 p., 121074.

Design rules of plant-based yoghurt-mimic: Formulation, functionality, sensory profile and nutritional value

Dhakal, D., Younas, T., Bhusal, R. P., Devkota, L., Henry, C. J. & Dhital, S., Sept 2023, In: Food Hydrocolloids. 142, 21 p., 108786.

Hard-to-cook phenomenon in common legumes: chemistry, mechanisms and utilisation

Perera, D., Devkota, L., Garnier, G., Panozzo, J. & Dhital, S., 30 Jul 2023, In: Food Chemistry. 415, 15 p., 135743.

Structural and thermal characterization of protein isolates from Australian lupin varieties as affected by processing conditions

Devkota, L., Kyriakopoulou, K., Bergia, R. & Dhital, S., 21 Feb 2023, In: Foods. 12, 5, 18 p., 908.

Bioactive nutrient retention during thermal-assisted hydration of Lupins

Perera, D., Kumar, G., Devkota, L. & Dhital, S., 3 Feb 2023, In: *Foods*. 12, 4, 20 p., 709.

Mashing performance as a function of malt particle size in beer production

Yin Tan, W., Li, M., Devkota, L., Attenborough, E. & Dhital, S., 2023, In: *Critical Reviews in Food Science and Nutrition*. 63, 21, p. 5372-5387 16 p.

Thermal and pulsed electric field (PEF) assisted hydration of common beans

Devkota, L., He, L., Bittencourt, C., Midgley, J. & Haritos, V. S., 15 Mar 2022, In: *LWT*. 158, 9 p., 113163.

Intact cells: "Nutritional capsules" in plant foods

Xiong, W., Devkota, L., Zhang, B., Muir, J. & Dhital, S., Mar 2022, In: *Comprehensive Reviews in Food Science and Food Safety*. 21, 2, p. 1198-1217 20 p.

Effect of seed coat microstructure and lipid composition on the hydration behavior and kinetics of two red bean (*Phaseolus vulgaris* L.) varieties

Devkota, L., He, L., Midgley, J. & Haritos, V. S., Feb 2022, In: *Journal of Food Science*. 87, 2, p. 528-542 15 p.

Reducing added sodium and sugar intake from processed legumes without affecting quality

Devkota, L., He, L., Midgley, J., Chen, Y. & Haritos, V. S., Apr 2021, In: *LWT*. 140, 8 p., 110729.

Electrochemical determination of tetracycline using AuNP-coated molecularly imprinted overoxidized polypyrrole sensing interface

Devkota, L., Nguyen, L. T., Vu, T. T. & Piro, B., 20 Apr 2018, In: *Electrochimica Acta*. 270, p. 535-542 8 p.

Extraction and characterization of proteins from banana (*Musa Sapientum* L) flower and evaluation of antimicrobial activities

Sitthiya, K., Devkota, L., Sadiq, M. B. & Anal, A. K., Feb 2018, In: *Journal of Food Science and Technology*. 55, 2, p. 658-666 9 p.

Regulatory and Legislative Issues for Food Waste Utilization

Devkota, L., Montet, D. & Anal, A. K., 2018, *Food Processing By-Products and their Utilization*. Anal, A. K. (ed.). 1st ed. Hoboken NJ USA: John Wiley & Sons, p. 535-548 14 p.

The effects of selected metal ions on the stability of red cabbage anthocyanins and total phenolic compounds subjected to encapsulation process

Ratanapoompinyo, J., Nguyen, L. T., Devkota, L. & Shrestha, P., Dec 2017, In: *Journal of Food Processing and Preservation*. 41, 6, 8 p., e13234.

Enzymatic hydrolysis of catfish (*Pangasius hypophthalmus*) By-Product: kinetic analysis of key process parameters and characteristics of the hydrolysates obtained

Ha, N. C., Hien, D. M., Thuy, N. T., Nguyen, L. T. & Devkota, L., 21 Oct 2017, In: *Journal of Aquatic Food Product Technology*. 26, 9, p. 1070-1082 13 p.

Projects

High moisture extrusion of proteins

Dhital, S. & Devkota, L.

15/07/22 → 31/07/23