

RUCHIRA NANDASIRI

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EDUCATION

- 2016 - 2020 **PhD in Food and Human Nutritional Science**, University of Manitoba, Canada
Thesis Title: Accelerated solvent extraction (ASE) of canola meals at high temperature: Evaluation of oxidative stability, structure-related synergistic antioxidant activity
Supervisor/s: Professor. N. A. Michael Eskin
Overall GPA - 4.0
- 2010 - 2012 **Master's in Food Chemistry and Nutrition**, Dalhousie University, Canada
Thesis Title: Antioxidant, antihypertensive and lipid lowering properties of fruit vinegar beverages
Supervisor: Dr. Vasantha Rupasinghe
Overall GPA - 3.5
- 2005 - 2009 **Bachelor's in Food Science and Nutrition**, (Second Class Honours)
Wayamba University of Sri Lanka
Research Title: Physico-chemical characterization and determination of 5-hydroxymethylfurfural in Sri Lankan bee honey with respect to local and global standards
Supervisor: Dr. C V L Jayasinghe

RESEARCH EXPERIENCE

- 2016 Jan - Present **Research Assistant**, University of Manitoba, Canada
- Conduct research related to structure function relationship of canola phenolic compounds
 - Understanding the attenuation techniques of major flavor-active bitter compounds using high pressure and temperature processing
 - Valorizing canola by-products via concomitance of flavor-active bitter phenolics using pressurized heat treatments
 - Use of RapidOxy® 100 as an innovative solvent-free pre-treatment to assess phenolic compounds from Canola by-products
- 2013Jul - 2014 Mar **Research Assistant**, Dalhousie University, Canada
- Perform lab experiments related to antioxidant and anti-hypertensive properties of tree fruit bio-products
 - Conduct studies related to fermentation technology and metabolites

- 2010 Sep - 2012 Dec **Research Assistant**, Dalhousie University, Canada
- Introduction of controlled fermentation technology in development of new beverage product with antihypertensive and lipid lowering properties
 - Evaluated the antioxidant properties of newly developed beverage in relation to FRAP, ORAC, DPPH and LDL-TBARS assays and enzyme-based assays including inhibition of ACE activity
 - Conducted human studies related to sensory evaluation and animal research related to evaluation of blood pressure lowering and lipid lowering properties
- 2009 Mar - 2009 Jul **Quality Assurance Research Trainee**, LION Brewery Ceylon, Sri Lanka
- Carried out a research project on new product development of drinkable yeast extract with improved sensory properties produced using spent yeast available from brewery
- 2008 Sep - 2009 Feb **Research Trainee**, Wayamba University of Sri Lanka
- Conducted research related to Physico-chemical characterization and determination of 5-hydroxymethylfurfural in Sri Lankan bee honey with respect to local and global standards

TEACHING EXPERIENCE

- 2021 Jan – To Date **Sessional Instructor**, University of Manitoba, Canada
- Planning and facilitating online lectures and lab experiments for Food Quality Evaluation (HNSC 3260) course for third year and fourth year students
- 2021 Jan – To Date **Teaching Assistant**, University of Manitoba, Canada
- Planning and facilitating online lectures and lab experiments for Research Methods and Presentation (HNSC 2000) course for second year students
- 2020 Jan – 2020 Apr **Teaching Assistant**, University of Manitoba, Canada
- Planned and facilitated lab experiments for Food Analysis 2 (FOOD 4250) course for third year and fourth year students
- 2017 Jan – To Date **Grader/Marker**, University of Manitoba, Canada
- Worked closely with the first-year students in Nutrition Throughout Life Cycle (HNSC 1210) related to Human Nutritional Sciences for nearly three years
- 2017 Jun - 2018 Apr **Grader/Marker**, University of Manitoba, Canada
- Working closely with the first-year students in Food Safety (FOOD 1000) related to Human Nutritional Sciences
- 2017 Jun - 2018 Apr **Grader/Marker**, University of Manitoba, Canada
- Working closely with the first-year students in Food Facts and Fallacies (HNSC 1200) related to Human Nutritional Sciences

- 2017 Jan - 2017 May **Part Time Teaching Assistant**, University of Manitoba, Canada
- Worked closely with the third-year students in Food Quality Evaluation (HNSC 3260) related to Human Nutritional Sciences
- 2013 May - 2013 Jul **Nutrition Consultant**, Fonterra Brands Lanka Ltd, Sri Lanka
- Facilitated nutritional awareness lectures related to bone health and brain health to pharmacists and conducted nutrition related discussion forums
- 2011 Sep - 2012 Jan **Teaching Assistant**, Dalhousie University, Canada
- Planned and facilitated lab experiments for Food Chemistry (CHEM 2003/2004) course third year and fourth year students
- 2010 Dec - 2013 Jan **Teaching and Marking Assistant**, Dalhousie University, Canada
- Planned and facilitated lab experiments for Introduction to Chemistry (CHEM 1000/1001) course first year students
- 2010 May - 2010 Aug **Nutrition Consultant**, Fonterra Brands Lanka Ltd, Sri Lanka
- Conducted nutritional awareness lectures related to the value of macro and micronutrients and benefits related to consumption of dairy products
- 2010 Feb - 2010 May **Instructor (Contract)**, ChildFund Sri Lanka
- Facilitated three-day workshop on career development and leadership, to youth and career centre managers who participated

STUDENT MENTORSHIPS

- 2020 Dec - To Date Research project mentor, University of Manitoba (Thu Min MSc)
Supervising the student on a project on “Impact of pressurized acidification pre-treatments on its phenolic composition of mustard samples”
- 2018 May - To Date Research project mentor, University of Manitoba (Afra Imran MSc)
Supervising the student on a project on “Impact of thermal pre-treatments on its phenolic composition of mustard samples”
- 2016 May - 2016 Jul Research project mentor, for Mitacs Globalink Intern, (Faiz Khan BTec)
Supervised the student on a project on “Extraction of Phenolics compounds from Canola and Hemp” (currently Ph.D. student)

PUBLICATIONS

THESIS PUBLICATIONS

- Nandasiri, R. 2012 **Masters Thesis** on Antioxidant, Antihypertensive and Lipid Lowering Properties of Fruit Vinegar Beverages (available at - <http://hdl.handle.net/10222/15777>)

JOURNAL PUBLICATIONS

- **Nandasiri, R.**, Imran, A., Eskin, N. A. M., Thiyam-Holländer, U. Rapidoxy® 100: A Novel Solvent-Free Pre-Treatment for Production of Canolol (*submitted JFSET Jan 2021*).
- **Nandasiri, R.**, Zago, E., Eskin, N. A. M., Thiyam-Holländer, U. Attenuation of Sinapic Acid and Sinapine-Derived Flavor-Active Compounds Using A Factorial-Based Pressurized High-Temperature Processing – (*under review JAOCS Dec 2020*).
- **Nandasiri, R.**, Eskin, N. A. M., Komatsu, E., Perreault, H., Thiyam-Holländer, U. Valorization of Canola By-products: Concomitance of Flavor-active Bitter Phenolics using Pressurized Heat Treatments. Special Issue: Recovery, enhancement and functionalization of value-added bioactive materials from food processing by-products, *LWT*, **2021**, 138, 110397
- Nandasiri, R., Eskin, M., Taron, M., Thiyam-Hollander, U., RapidOxy 100: An Innovative Solvent-Free Pre-Treatment to Assess Phenolic Compounds from Mustard and Canola Meal. *J American Oil Chemists*, **2020**; 97, 97.
- **Nandasiri, R.**, Eskin, N. A. M., Thiyam-Holländer U. Antioxidative Polyphenols of Canola Meal: Effect of High Pressure, Temperature and Solvents. *J Food Science* **2019**; 84, 11: 3117-3128.
- Liang, J., Zago, E., **Nandaisri, R.**, Khattab, R., Eskin N.A.M., Eck, P., Thiyam-Holländer, U. Identification and quantification of main phenolic compounds of cold -pressed hemp oil by –products. *J American Oil Chemists* 2018; 95, 1319-1327.
- **Nandasiri, R.**, Rupasinghe, H.P.V. Inhibition of Angiotensin Converting Enzyme and Low-Density Lipoprotein Oxidation in vitro by Functional Fruit Vinegar Beverages. *J Food Processing & Beverages* 2013; 1 (1): 4.
- Jayasinghe, C.V.L., Rangama, L., **Nandasiri, R.**, Jayakala, M.B., Karunasekara, D., Jayasekara, M.K.C.P. 2011. Authentication of Sri Lankan bee honey. *International Journal of Chemical Sciences*, June 2011, Sri Lanka.

BOOK CHAPTERS

- **Nandasiri, R.**, Eskin, N. A. M., Thiyam-Holländer, U. 2019. Application of Green Technology on Extraction of Phenolic Compounds in Oilseeds (Canola). Green Technology, Bioactive Compounds, Functionality, and Applications in Cold Pressed Oils. 2020; 81-96.

JOURNAL AND REVIEW PUBLICATION IN PROGRESS

- **Nandaisri, R.**, Imran, A., Eskin N.A.M., Thiyam-Holländer, U. Impact of Pre-treatment Temperature on Extraction of Canolol from Mustard Samples using Rapidoxy® 100 - (*In Progress*)
- **Nandaisri, R.**, Eskin, N.A.M., Thiyam-Holländer, U. Canolol: A Promising Antioxidant with Inspiring Foresight: A Review - (*In Progress*)

- Zago, E., **Nandaisri, R.**, Eskin, N.A.M., Eck, P., Thiyam-Holländer, U. Influence of Thermal Treatments on the Antioxidant Activity of Hemp Cake Polar Extracts - (*In Progress*)

SELECTED CONFERENCE PROCEEDINGS

- **Nandasiri, R.**, Eskin, M., Thiyam-Holländer, U. 2021. Attenuation of Sinapic Acid and Sinapine-Derived Flavor-Active Compounds Using A Factorial-Based Pressurized High-Temperature Processing. AOCS Annual Meeting and Expo, American Oil Chemists Society (AOCS) Virtual Conference, American Oil Chemists Society (AOCS), 3-14 May 2021.
- **Nandasiri, R.**, Eskin, M., Taron, M., Thiyam-Holländer, U. 2020. RapidOxy® 100: An Innovative Solvent-Free Pre-Treatment to Assess Phenolic Compounds from Canola Meal. AOCS Annual Meeting and Expo, American Oil Chemists Society (AOCS) Virtual Conference, American Oil Chemists Society (AOCS), 26-29 June 2020.
- **Nandasiri, R.**, Eskin, M., Eck, P., Thiyam-Holländer, U. 2019. Impact of Accelerated Solvent Extraction (ASE) on Hydroxycinnamic Acid Derivatives. Canadian Food Summit, Canadian Institute of Food Science and Technology (CIFST), 22-24 May 2019, Halifax, NS, Canada.
- **Nandasiri, R.**, Eskin, M., Thiyam-Holländer, U. 2019. Antioxidative Polyphenols of Canola Meal: Effect of High Pressure, Temperature, and Solvents. AOCS Annual Meeting and Expo, American Oil Chemists Society (AOCS), 5-8 May 2019, St Louis, Missouri, USA.
- **Nandasiri, R.**, Thiyam-Holländer, U., Eck, P. 2017. Structure Related Bioactivity of Major Phenolic Compounds in Canola Extracts. Nutrition Society: Scientific Abstracts from the 8th Annual Scientific Meeting (Applied Physiology, Nutrition, and Metabolism), 2017, Montreal, QC, Canada.
- **Nandasiri, R.**, Thiyam-Holländer, U., Eck, P. 2016. Determination of Structure Related Antioxidant Capacity of Canola and Hemp Extracts in Relation to Accelerated Solvent Extraction - Development of Novel HPLC method of Quantification. 30th EFFoST Conference, November 2016, Vienna, Austria.
- **Nandasiri, R.**, Sabra, A., Thiyam-Holländer, U., Eck, P. 2016. Value Added Processing of Canola by-products using Accelerated Solvent Extraction (ASE): Extraction of Sinapic Acid, Canolol and other Phenolic Compounds. Northern Gates Lipid Conference, June 2016, Agriculture Agri-Food Canada, North Dakota, USA.
- **Nandasiri, R.**, Rupasinghe, H.P.V., Wang, Y. 2014. Blood Pressure Lowering and Plasma Lipid Profile Improving Properties of Functional Fruit Vinegar Beverages in Spontaneously Hypertensive Rats Fed with High Cholesterol Diet. 17th International Union of Food Science and Technology (IUFoST) World Congress, August 2014, Montreal, QC, Canada.

- **Nandasiri, R.**, Rupasinghe, H.P.V., Wang, Y. 2012. Regulations of Hypertension and Cholesterol Metabolism by Fruit Vinegar Beverages. 24th Scientific Meeting of the International Society of Hypertension, September 2012, Sydney, Australia.
- **Nandasiri, R.**, Rupasinghe, H.P.V., Pitts, N.L. 2012. Antioxidant Properties and Sensory Attributes of Four different Fruit Vinegar Beverages. Middle Atlantic Regional Meeting, May 2012, Baltimore, Maryland USA.
- **Nandasiri, R.**, Rupasinghe, H.P.V., Pitts, N.L. 2012. Antioxidant Properties and Sensory Attributes of Four different Fruit Vinegar Beverages. Canadian Institute of Food Science and Technology, May 2012, Niagara Falls, ON, Canada.
- **Nandasiri R.**, Rupasinghe, H.P.V. 2011. Anti-hypertensive Properties of Fruit Vinegars. Plant Canada Conference, July 2011, Halifax, NS, Canada.
- **Nandasiri R.**, Jayasekara, M.K.C.P., Senarath, H.P.S., Jayasinghe, C.V.L. 2009. Physico-chemical characterization and determination of 5-Hydroxymethylfurfural in Sri Lankan bee honey with respect to local and global standards. Proceedings of 6th Food & Nutrition Symposium - 2009, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka.

AWARDS

2021 Jan	Faculty of Graduate Studies Special Award Funded by University of Manitoba, Canada
2020 Apr	Faculty of Graduate Studies Special Award Funded by University of Manitoba, Canada
2020 Jan	Nominated for the Processing Division Student Award from American Oil Chemist Society
2020 Jan - 2020 Apr	Graduate Research Assistantship Funded by The Department of Food and Human Nutritional Sciences, University of Manitoba, Canada
2019 Nov	Murphy Foundation Graduate Student Award funded by University of Manitoba, Canada
2019 Apr	Student Travel Award Funded by Faculty of Graduate Studies, University of Manitoba
2019 April	Student Travel Award Funded by Graduate Students Association, University of Manitoba
2019 April	Canadian Institute of Food Science and Technology (CIFST) Student Travel Award Funded by University of Manitoba, Canada
2019 Feb	Lipid oxidation and Quality Division Student Travel Grant from American Oil Chemist Society

- 2018 Sep **Faculty of Graduate Studies Special Award** funded by University of Manitoba, Canada
- 2018 Feb **Emerging Leader Award** awarded by Student Life, University of Manitoba, Canada
- 2017 Sep **Murphy Foundation Graduate Student Award** funded by University of Manitoba, Canada
- 2017 Sep **Faculty of Graduate Studies Special Award** funded by University of Manitoba, Canada
- 2016 Jan - 2019 Apr **GETS Scholarship** funded by the Natural Sciences and Engineering Research Council of Canada (NSERC), Canada
- 2016 Jan - 2019 Jan **Graduate Research Assistantship** by the Department of Human Nutrition, University of Manitoba, Canada
- 2010 Sep - 2012 Dec **Graduate Research Assistantship** by the Department of Environmental Sciences, Dalhousie University, Canada
- 2011 Dec **Rotary Club International Student Scholarship** by the rotary club of Truro, Nova Scotia, Canada
- 2008 Aug **Best Local Raw Material Award** for Innovative “Avocado Ice-cream” by the Food Processors Association of Sri Lanka, Pro-Food Pro-pack International Food Exhibition, Sri Lanka

PROFESSIONAL EXPERIENCE

- 2017 April - To Date Provincial Science Fair Judge, Manitoba, Canada (Chemistry)
- 2013 May - 2013 Jul Nutrition Consultant, Fonterra Brands Lanka Ltd, Sri Lanka
- 2011 Jan - 2013 Mar Regional Science Fair Judge, Truro, NS
- 2011 Dec - 2013 Mar Exam Proctor, Dalhousie University, Canada
- 2010 May - 2010 Aug Nutrition Consultant, Fonterra Brands Lanka Ltd, Sri Lanka
- 2010 Feb - 2010 May Research Consultant, ChildFund Sri Lanka

PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

- 2019 Mar - To Date Bowling All Round Cricketer (Best Bowler of 2020 of the Bloomfield Cricket and Cultural Club), **Bloomfield Cricket and Cultural Club**
- 2019 Mar - To Date Director Media, **Manitoba Buddhist Vihara and Cultural Association**

2018 Jan – To Date	Student member Canadian Institute of Food Science of Technology
2017 Jan – To Date	Student member and Selection Committee Member - Best Paper Award on Lipid Oxidation and Quality, American Oil Chemist Society
2016 Sept - 2018 Sept	Treasurer Human Nutrition Graduate Association , University of Manitoba
2017 July - 2017 Aug	Volunteer member in Summer Games Canada 2017 , Manitoba, Canada
2016 May - 2017 Sept	Professional Member of Institute of Food Science and Technology
2016 Jan - 2018 Jan	Student Volunteer Leader , (UMVP) University of Manitoba, Canada
2014 Jun - Present	Volunteer member in Sri Lanka Association of Manitoba
2011 Jan - 2013 Apr	Professional Member of Canadian Institute of Food Science and Technology
2011 Mar - 2012 Mar	President of International Student Association , Dalhousie University, Canada
2008 Jan - 2009 Jan	President of Association of Food Science and Technology , Wayamba University of Sri Lanka
2006 Jan - 2009 Jan	Student and Batch Representative of Faculty of Livestock Fisheries and Nutrition, Wayamba University of Sri Lanka
2008 Mar - 2009 Mar	Editor of Inter University Association of Food Science and Technology, Sri Lanka

REFERENCES

Dr. N. A. Michel Eskin

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 Faculty of Livestock Fisheries and Nutrition
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