



# Curriculum Vitae

Institute of Nutrition, Mahidol University (INMU)  
999 Phutthamonthon 4 Rd., Salaya, Phutthamonthon  
Nakhon Pathom 73170, Thailand

**Name** Dunyaporn Trachootham  
ดุลยพร ตราชูธรรม

**Email Address:** dunyaporn.tra@mahidol.ac.th

**Current positions:** - Assistant Professor  
- Committee and secretary, Master of Science Program in Toxicology and Nutrition for Food Safety

## Education:

PhD Biomedical Sciences (Pharmacology)	University of Texas Health Sciences Center at Houston, Texas	USA
DDS (Dentistry) (First class honored)	Mahidol University	Thailand
Cert. (Nutrition Science for health professionals)	Friedman School of Nutrition, Tuft University, Boston	USA

## Training:

Postdoctoral fellow (Cancer biology)	MD Anderson Cancer center, Houston, Texas	USA
Standard course in Clinical trials	Faculty of Medicine, Chulalongkorn University	Thailand
ICH-GCP	CITI	
Food Safety assessment of GM plant	BIOTEC, NSTDA	Thailand
Food Safety Assessor	Thailand Risk Assessment Center (TRAC)	Thailand

## Professional experiences

### - Dentist (2011 – present)

### - Assessor

Thai Food and Drug Administration (FDA)

- Scientific integrity of health claim application
- Scientific integrity of dietary supplement application

Thailand Risk Assessment Center (TRAC)

- Safety of novel food

BIOTEC, NSTDA

- Safety (toxicology part) of genetically modified plant food

### - Committee

Thai Food and Drug Administration (FDA)

- Drafting regulatory standard of food for elderly with chewing and swallowing problems
- Scientific assessment of the project "Fluoridated milk for primary school children"

Bureau of Nutrition, Department of Health, Ministry of Health

- Drafting Thai Dietary Recommendation Intake (DRI) for vitamin and minerals with antioxidant property

National Bureau of Agricultural Commodity and Food Standards

- Drafting guideline to assess safety of genetically modified plant



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## Research Interest and Expertise

1. Research and development of functional food for cancer prevention
2. Research and development of food product for patients with compromised oral functions (chewing and swallowing difficulties, dry mouth, taste disorders)
3. Clinical safety, pharmacokinetic and efficacy trials of functional food products
4. Oral health and nutrition in Aging population
5. Oxidative stress, dietary factor and cancer risk
6. Micronutrients and risk of NCDs

## Publications

### International Level

1. Nuchit S, Lam-Ubol A, Paemuang W, Talungchit S, Chokchaitam O, Mungkung O, Pongcharoen T, **Trachootham D**. Alleviation of Dry Mouth by Saliva Substitutes Improved Swallowing Ability and Clinical Nutritional Status of Post-Radiotherapy Head and Neck Cancer Patients: A Randomized Controlled Trial Alleviation of dry mouth by saliva substitutes improved swallowing ability and clinical nutritional status of post-radiotherapy head and neck cancer patients: a randomized controlled trial [published online ahead of print, 2019 Nov 15]. *Support Care Cancer*. 2019; 10.1007/s00520-019-05132-1. doi:10.1007/s00520-019-05132-1
2. Tarapan S, Matangkasombut O, **Trachootham D**, Sattabanasuk V, Talungchit S, Paemuang W, Phonyiam T, Chokchaitam O, Mungkung OO, Lam-Ubol A. Oral Candida colonization in xerostomic postradiotherapy head and neck cancer patients. *Oral Dis*. 2019; 25 (7), 1798-1808. doi: 10.1111/odi.13151.
3. Suttireung P, Winuprasith T, Srichamnong W, Paemuang W, Phonyiam T, **Trachootham D**. Riceberry Rice Puddings: Rice-based Low Glycemic Dysphagia Diets. *Asia Pacific J Clin Nutr*. 2019; 28(3):467-475, doi: 10.1633/apjcn.201906/PP.0003
4. **Trachootham D**, Khoonin W. Disrupting Redox Stabilizer: A Novel Therapeutic Strategy for Colorectal Cancer. *Cancer Communications*, 2019; 39(1):9 <https://doi.org/10.1186/s40880-019-0355-y>
5. Vittayakasemsont K, Klaithong C, Phukosib K, Chavasit V, Sinthusek T, **Trachootham D**. Association between Pre-treatment Dietary Preference and Weight Loss after Radiation Therapy in Head and Neck Cancer Patients: A Pilot Study. *Nutr Cancer* 2019; 71(2): 230-239. doi: 10.1080/01635581.2019.1578393.
6. Treesattayakul B, Winuprasith T, Theeranuluk B, **Trachootham D**. Loss of Posterior Occluding Teeth and Its Association with Protein-Micronutrients Intake and Muscle Mass among Thai Elders: A Pilot Study. *J Frailty Aging*. 2019; 8(2):100-103. doi: 10.14283/jfa.2019.2.



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7. Tippairote T, Temviriyankul P, Benjapong W, **Trachootham D**. Prevalence and Factors Associated with High Levels of Aluminum, Arsenic, Cadmium, Lead, and Mercury in Hair Samples of Well-Nourished Thai Children in Bangkok and Perimeters. *Biol Trace Elem Res*. 2019;188(2): 334–343
8. Lam-Ubol A, Fitzgerald AL, Ritdej A, Phonyiam T, Zhang H, Myers JN, Huang P, **Trachootham D**. Sensory acceptable equivalent doses of  $\beta$ -phenylethyl isothiocyanate (PEITC) induce cell cycle arrest and retard the growth of p53 mutated oral cancer in vitro and in vivo. *Food Funct*. 2018; 9: 3640–3656 (*back-covered article*)
9. Tippairote T, **Trachootham D**. Zinc Status in Hair Samples and Common Neurodevelopmental Disorders. *J Neurol Neuromed*. 2018; 3(1): 8-12.
10. **Trachootham D**, Sato-Kuriwada S, Lam-Ubol A, Promkam C, Chotechuang N, Sasano T, Shoji N. Differences in taste perception and spicy preference: a Thai - Japanese cross-cultural study. *Chem Senses*. 2018; 43(1): 65-74.
11. **Trachootham D**, Chingsuwanrote P, Yoosadiang P, Mekkiangkrai D, Ratchawong T, Buraphacheep N, Kijanukul S, Saekhowh S, Pongpitchayadeji O, Vongvachvasinj K, Sittikornpaiboonk P, Tuntipopipat S. Partial Substitution of Glucose with Xylitol Suppressed the Glycolysis and Selectively Inhibited the Proliferation of Oral Cancer Cells. *Nutr Cancer* 2017; 69 (6): 862–872
12. **Trachoothama D**, Chupeeracha C, Tuntipopipat S, Pathomyok L, Boonnak K, Praengam K, Promkam C, Santivarangkna C. Drinking fermented milk containing *Lactobacillus paracasei* 431 (IMULUS™) improves immune response against H1N1 and cross-reactive H3N2 viruses after influenza vaccination: A pilot randomized triple-blinded placebo controlled trial. *J Functional Foods*. 2017; 33: 1-10
13. Tippairote T, Temviriyankul P, Benjapong W, **Trachootham D**. Hair Zinc and Severity of Symptoms Are Increased in Children with Attention Deficit and Hyperactivity Disorder: a Hair Multi-Element Profile Study. *Biol Trace Elem Res*. 2017; 179 (2): 185-194
14. Madiloggovit J, Chotechuang N, **Trachootham D**. Impact of self-tongue brushing on taste perception in Thai older adults: A pilot study. *Geriatr Nurs*. 2016; 37(2): 138-36
15. Dalodom S, Lam-ubol A, Jeanmaneechotechai S, MS, Takamfoo L, Intachai W, Duangchada K, Hongsachum B, Kanchanatiwat P, Vacharotayangul P, **Trachootham D**. Influence of oral moisturizing jelly as a saliva substitute for the relief of xerostomia in elderly patients with hypertension and diabetes mellitus. *Geriatr Nurs*. 2016; 37(2): 101-9.
16. **Trachootham D**, Songkaew W, Hongsachum B, Wattana C, Changklungdee N, Karapoch J, Thirsduttironnapumi S, Meennuch E, Klaitong C, Sinthusek T, Lam-Ubol A. Nutri-jelly may



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- improve quality of life and decrease tube feeding demand in head and neck cancer patients. *Support Care Cancer*. 2015; 23(5):1421-30.
17. **Trachootham D**, Chen G, Zhang W, Lu W, Zhang H, Liu J, Huang P. Loss of p53 in stromal fibroblasts promotes epithelial cell invasion through redox-mediated ICAM1 signal. *Free Radic Biol Med*. 2013 May; 58:1-13 doi: 10.1016/j.freeradbiomed.2013.01.011
  18. Zhang W, **Trachootham D**, Liu J, Chen G, Pelicano H, Garcia-Prieto C, Lu W, Burger JA, Croce CM, Plunkett W, Keating MJ, Huang P. Stromal control of cystine metabolism promotes cancer cell survival in chronic lymphocytic leukaemia. *Nat Cell Biol*. 2012 Feb 19; 14(3):276-86
  19. Hu Y, Lu W, Chen G, Wang P, Chen Z, Zhou Y, Ogasawara M, **Trachootham D**, Feng L, Pelicano H, Chiao PJ, Keating MJ, Garcia-Manero G, Huang P. K-ras (G12V) transformation leads to mitochondrial dysfunction and a metabolic switch from oxidative phosphorylation to glycolysis. *Cell Res*. 2012; 22(2):399-412 DOI: 10.1038/cr.2011.145
  20. Chen G, Wang F, **Trachootham D**, Huang P. Preferential killing of cancer cells with mitochondrial dysfunction by natural compounds. *Mitochondrion*. 2010; 10(6):614-25 DOI: 10.1016/j.mito.2010.08.001
  21. **Trachootham D**, Alexandre J, Huang P. Targeting cancer cells by ROS-mediated mechanisms: a radical therapeutic approach? *Nat Rev Drug Discov*. 2009; 8(7): 579-91. DOI: 10.1038/nrd2803
  22. **Trachootham D**, Lu W, Ogasawara MA, Nilsa RD, Huang P. Redox regulation of cell survival. *Antioxid Redox Signal*. 2008; 10(8):1343-74.
  23. **Trachootham D**, Zhang H, Zhang W, Feng L, Du M, Zhou Y, Chen Z, Pelicano H, Plunkett W, Wierda WG, Keating MJ, Huang P. Effective elimination of fludarabine-resistant CLL cells by PEITC through a redox-mediated mechanism. *Blood*. 2008; 112(5):1912-22
  24. Zhang H, **Trachootham D**, Lu W, Carew J, Giles FJ, Keating MJ, Arlinghaus RB, Huang P. Effective killing of Gleevec-resistant CML cells with T315I mutation by a natural compound PEITC through redox-mediated mechanism. *Leukemia*. 2008; 22(6):1191
  25. Demizu Y, Sasaki R, **Trachootham D**, Pelicano H, Colacino JA, Liu J, Huang P. Alterations of cellular redox state during NNK-induced malignant transformation and resistance to radiation. *Antioxid Redox Signal*. 2008; 10(5):951-61.
  26. **Trachootham D**, Zhou Y, Zhang H, Demizu Y, Chen Z, Pelicano H, Chiao PJ, Achanta G, Arlinghaus RB, Liu J, Huang P. Selective killing of oncogenically transformed cells through a ROS-mediated mechanism by beta-phenylethyl isothiocyanate. *Cancer Cell*. 2006; 10(3): 241-52. (front-covered article)

### National level

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1. Amornsil P, Trachootham D. PEITC: Functional Compound for Primary and Tertiary Chemoprevention of Cancer. *Thai J Toxicol.* 2019; 34(2): 75-93
2. Vittayakasemsont K, Klaithong C, Phukosi K, Chavasit V, **Trachootham D.** Nutritional Status of Thai Patients with Head and Neck Cancer During and After Completion of Radiotherapy. *J Dep Med Serv.* 2018; 43 (5): 99-104
3. Tippairote T, Temviriyankul P, Benjapong W, Trachootham D. A pilot case-control study of lead and other hazardous elements in hair samples and risk of attention deficit and hyperactivity disorders in Thai children. *Thai J Toxicology* (special issue): proceedings of the 7th National Conference in Toxicology (NCT7), 2016.
4. Sutthisawas N, **Trachootham D,** Wattanavijitkul T. Pharmacokinetic, safety and tolerability studies after single and multiple oral administration of Phenethyl isothiocyanate in Nutri Jelly. *Chula Med J.* 2015; 59:631

## Proceedings

1. Treesattayakul B, Winuprasith T, Teeranurak B, **Trachootham D.** Inadequate intake of Dietary Fiber, Vitamin B12, and Calcium in Thai Elders. Proceedings of the 1st International Conference on Innovations in Food Ingredients & Food Safety (IFIFS 2018) Bangkok, Thailand, 12-13 September 2018 Paper ID: 40
2. Paemuang W, Rojrunvasinkul N, Santivarangkna C, **Trachootham D.** Development and validation of EAT-ABLE, a novel tool for self-assessment of ability to eat. Proceedings of the 9<sup>th</sup> International Graduate Students Conference on Population and Public Health Sciences (IGSCPP), Chulalongkorn University, Thailand, 24 July 2018
3. Theabratana P, Lamubol A, Pongcharoen T, **Trachootham D.** The Association between Taste Preference and Relevant Dietary Consumption in Thai Adults. 0th World Congress on Clinical Nutrition (WCCN), December 14-16, 2016: Rama Gardens Hotel, Bangkok, THAILAND

## Books

1. Tippairote T, Karnpanit W, **Trachootham D.** (2019) Sources of Arsenic Exposure in Well-Nourished Children. In: Fares A., Singh S. (eds) Arsenic Water Resources Contamination. Advances in Water Security. Springer, Cham. [https://doi.org/10.1007/978-3-030-21258-2\\_4](https://doi.org/10.1007/978-3-030-21258-2_4)
2. **Trachootham D.** Chapter 7: Research and development of functional foods for specific type of cancer. In: Martirosyan DM, Zhou JR. Functional foods and cancer: Functional Foods in Integrative Oncology. Volume 5. First edition. Texas, USA: Functional Food Center; 2017. p. 135–156. ISBN-13: 978-1976255342
3. **Trachootham D.** Eat Right Fight Cancer. Amarin Pringting, BKK, 2017, ISBN: 978-616-18-2068-



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4. **Trachootham D.** Anti-cancer Recipe. Amarin Pringting, BKK, 2017, ISBN: 978-616-18-2073-2
5. **Trachootham D.**, Wan Zhang and Peng Huang. Chapter 7: oxidative stress and cancer drug resistance. In the book: Drug resistance in Cancer Cells, Springer, NY, 2009, ISBN:978-0-387-89445-4
6. **Trachootham D.**, Madilogkowitz J. Chapter 2: Physiologic and pathologic changes of oral aging, prevention and management of oral diseases in elderly people. In: Clinical Practice Guideline for Geriatric Dentistry, Neurological Prasat Institute, Ministry of Health, 2014

## Graduate Advisory Experiences

### PhD level

#### Major advisor

Watacharapol Koonin, MS – ongoing PhD program in Nutrition, Mahidol University

#### Co-advisor

Montree Toso, graduated PhD in Oral Science, Thammasat University, 2017

### Master of Sciences level

#### Major advisor

- **Torsak Tippairote**, MD (medicine)  
Graduated MS (Food and Nutritional Toxicology), Mahidol University, 2016
- **Pakaorn Tiabrat**, BNS (nursing)  
Graduated MS (Nutrition and Dietetics), Mahidol University, 2017
- **Kanoknun Vittayakasemsont**, BS (Home economics: food and nutrition)  
Graduated MS (Nutrition), Mahidol University, 2018
- **Budtree Treesattayakul**, BS (nutrition)  
Graduated MS (Nutrition and Dietetics), Mahidol University, 2018
- **Wannaporn Paengam**, BNS (Nursing)  
Graduated MS (Nutrition and Dietetics), Mahidol University, 2018
- **Prangtip Suttireung**, BS (Medical Technology)  
Graduated MS (Nutrition and Dietetics), Mahidol University, 2018
- **Sumalee Nuchit**, BS (Nutrition)  
Graduated MS (Nutrition and Dietetics), Mahidol University, 2018
- **Pathumrat Amonsil**, BS (Food and nutrition)  
Ongoing MS (Toxicology and Nutrition for Food Safety), Mahidol University
- **Rata Khuropakhonphong**, BS (Psychology)  
Defended MS (Nutrition and Dietetics), Mahidol University

#### Co-advisor



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- **Panitnart Kanjanatiwat**, BS (Food sciences and technology)  
Graduated MS (Food sciences for better nutrition), Mahidol University, 2014
- **Jandanee Karapoch**, BNS (Nursing)  
Graduated MS (Nutrition and dietetics), Mahidol University, 2015
- **Narueporn Sutthisawas**, Pharm.D  
Graduated MS (Clinical Pharmacology), Chulalongkorn University, 2016
- **Thanit Koonkaew**, BS (Biomedical sciences)  
Graduated MS (Food and Nutritional Toxicology), Mahidol University, 2018
- **Virat Wonsaengnak**, MD (medicine)  
Graduated MS (Food and Nutritional Toxicology), Mahidol University, 2018
- **Wassana Pookate**, BS (Nutrition)  
Ongoing MS (Nutrition and Dietetics), Mahidol University, 2018
- **Supanat Tarapan**, DDS (Dentistry)  
Graduated MS (Oral and Maxillofacial Sciences), Srinakarinwirot University, 2018
- **Chanika Chimkerd**, BS  
Graduated MS (Food Sciences for better nutrition), Mahidol University, 2019

## Research Experiences

### 1. Innovation (Research and Development)

- Project manager: functional foods and medical foods for elderly and cancer patients

### 2. Clinical studies

- Safety and efficacy clinical trials of food products for cancer patients, elderly people and healthy volunteers (quality of life, tumor response, constipation and defecation, immune response, liver function, muscle health)
- Glycemic index identification by clinical trial
- Pharmacokinetic study of functional food and analysis of active compound
- Chemical analysis from biological specimens using HPLC, LC-MS/MS, GC-MS
- Measurement of taste thresholds using Filter Paper Disc method
- Observational studies: case-control and cohort studies
- Validation and Reliability tests of new assessment tools or new guidelines

### 3. *In vivo* studies

- Orthotopic oral cancer xenograft model in mice
- Immunohistochemistry
- Tissue analysis for metabolic activity
- Efficacy study of anti-cancer agents in animal xenograft model of cancer



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- Animal toxicity tests of food product according to OECD guideline

#### **4. *In vitro* studies**

- Experiments using primary lymphocytes from leukemia patients and healthy volunteers
- Three-dimensional organotypic culture
- Cellular toxicity tests
- Molecular and biochemical techniques (flow cytometer, immunofluorescence, western blotting, RT-PCR, 2-D electrophoresis)
- Measurement of oxidative stress in cells, oxidative modification of protein, lipid, DNA
- Measurement of activities in glutathione antioxidant system
- Metabolism study (ATP generation and glycolysis)

#### **Honor and Awards**

2020 Distinguished Teacher Award, Institute of Nutrition, Mahidol University

2019 Major advisor of MU Distinguished Thesis Award, Mahidol University

2019 Malaspina International Scholar Travel (MIST) Award, ILSI Research Foundation, USA

2019 Distinguished University Faculty, Institute of Nutrition, Mahidol University

2018 Distinguished University Faculty, Institute of Nutrition, Mahidol University

2016 Ajinomoto Award for Outstanding Nutrition Research, Thailand Congress of Nutrition

2015 First prize, Poster presentation, Annual conference of Society for Parenteral and Enteral Nutrition of Thailand (SPENT)

2011 Present to His Majesty the King Rama IX "Nutri-jelly- a novel food product for chewing and swallowing problem

2010 Best Dissertation Award from National Research Council of Thailand

2009 Trainee of the quarter award, MD Anderson cancer center, USA

2009 Second prize, Research presentation, IADR/APF, Wuhan, China

2008 President Research Scholar award, University of Texas, USA

2007 Lummis Family Fellowship, University of Texas, USA

2007 Best Poster in Toxicology and Pharmacology, National Student Research Forum, USA

2002 The recipient of Anandamahidol Scholarship (Dentistry)