



Curriculum Vitae

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

Name Emorn Udomkesmalee (Wasantwisut)

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Salaya, Phuttamonthon District, Nakhon Pathom Province 73170, Thailand.
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Current academic positions: Associate Professor
2007 - present Senior Advisor, Institute of Nutrition, Mahidol University
2007- present Adjunct Associate Professor, Department of International Health, Johns
Hopkins Bloomberg School of Public Health, USA

Education

1986 - 1987 Post-doctoral training, Research Associate; Vitamin and Mineral Nutrition
Laboratory; Beltsville Human Nutrition Research Center; US Department of
Agriculture, Beltsville, Maryland, USA.
1980 - 1985 Ph.D. (major: Nutritional Biochemistry and Metabolism); Department of
Nutrition and Food Science; Massachusetts Institute of Technology;
Massachusetts, USA.
1978 -1980 Master of Science (major: Nutrition); Department of Food Science and
Nutrition; Brigham Young University, Utah, USA.
1973 -1977 Bachelor of Science (major: Biochemistry); Faculty of Science;
Chulalongkorn University, Bangkok, Thailand.

Honors and Awards

Sept. 1984 - Recipient of the United Nations University Fellowship Award
Sept. 1982
Feb 2007 Outstanding Alumni, Faculty of Science, Chulalongkorn University, Bangkok,
Thailand
Aug 2019 Mahidol University-Role Model, to commemorate 50th Anniversary of the
Royal Bestowal of University's Namesake, at 131 years of Mahidol University
Celebration
Aug 2022 ILSI Southeast Asia Region Recognition Award

Memberships:

American Society for Nutrition
The Nutrition Association of Thailand
World Public Health Nutrition Association
International Society for Implementation Science in Nutrition (ISISN)



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Prior Positions

2009 – 2011	Vice President for International Relations, Mahidol University.
2003 - 2007	Associate Professor and Director, Institute of Nutrition, Mahidol University
1999 - 2003	Deputy Director for Research and Academic Affairs, Institute of Nutrition, Mahidol University
1999 - present	Associate Professor, Institute of Nutrition, Mahidol University
1994 -1999	Assistant Director for International Affairs, Institute of Nutrition, Mahidol University.
1992 - 1999	Assistant Professor, Institute of Nutrition, Mahidol University.
1999 - 2002	Coordinator of Secretariat; South-East Asia Nutrition Research-cum- Action Network
1999 – 1996	
1993 -1998	Research Peer Review Panel Member - US Agency for International Development
1991 - 1993	<i>Committee member.</i> "Nutrition and Immunity" for International Development; International Union of Nutritional Science (IUNS).
1990 - 1992	<i>Coordinator of Secretariate</i> WHO/SEARO; Nutrition Research-cum-Action Network.
July. 1987- Nov. 1992	<i>Research Nutritionist/Instructor.</i> Institute of Nutrition, Mahidol University (INMU); Nakhon Pathom, Thailand.
1991	<i>(IVACG) Task force member</i> on "Assessment Methodology"; International Vitamin A Consultative Group.
April 1985- June 1986	<i>Research Nutritionist.</i> Institute of Nutrition, Mahidol University (INMU); Nakhon Pathom, Thailand.
Sept. 1984- Jan. 1985	<i>Teaching Assistant.</i> "Applied Biological Instrumentation"; Department of Nutrition and Food Science; Massachusetts Institute of Technology; Massachusetts, USA.
Jan. 1980-	<i>Research Assistant.</i> Department of Food Science and Nutrition; Brigham Young University; Utah, USA.
July - Dec. 1997	<i>Research Assistant.</i> Renal Laboratory; Ramathibodi Hospital; Bangkok, Thailand.

Research Interest and Expertise

- Micronutrients (Vitamin A, iron, zinc) - Assessment, Bioavailability and Metabolism
- Efficacy of food-based interventions to address micronutrient deficiencies
- Vitamin A status in lactating women
- Maternal and child nutrition policy advocacy and program implementation



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International Committee

- 2020-2021 Chair, Board of Trustees, International Food Policy Research Institute (IFPRI)
- 2020-present Member, Standing Together for Nutrition Consortium
- 2020-present Member, Technical Advisory Group for Global Anemia Exemplars
- 2018-present Member, Scientific Committee, Agriculture, Nutrition and Health (ANH) Academy
- 2018-2021 Member, Independent Steering Committee (ISC) for CRP on Agriculture for Nutrition and Health (A4NH), led by IFPRI
- 2018-2019 Committee on the Application of Global Harmonization of Methodological Approaches to Nutrient Intake Recommendations for Young Children and Women of Reproductive Age, National Academy of Sciences, USA
- 2018 – 2020 Chair, Local Organizing Committee, Micronutrient Forum 5th Global Conference 2020
- 2017 – 2021 Scientific Council – Institut de Recherche pour le Developpement (IRD), France
- 2015 - 2020 Member-Board of Trustees, International Food Policy Research Institute (IFPRI)
- 2015 – present Board member, Sight and Life Foundation
- 2015 – present Founding Member, Society for Implementation Science in Nutrition (SISN)
- 2015 – 2019 Board Member, The Sackler Institute for Nutrition Science/The New York Academy of Sciences
- 2015 - 2018 Co-Chair, Independent Expert Group, Global Nutrition Report
- 2014 – 2015 Independent Expert Group, Global Nutrition Report
- 2014 – 2015 WHO Nutrition Topic Advisory Group on ICD Revision Project
- 2013 – 2016 Steering Committee, Micronutrient Forum (multi-partners)
- 2012 – 2015 Country Network Facilitator, Scaling Up Nutrition (SUN) Movement
- 2012 - present Scientific Director, ILSI South East Asia Region
- 2010 - 2015 Partnership Council, Global Alliance for Improved Nutrition (GAIN)
- 2012 - 2014 The Culinary Institute of America's World of Healthy Flavors Scientific and Public Health Advisory Committee
- 2012 – 2013 Working Group, A Global Research Agenda for Nutrition Science, the Sackler Institute for Nutrition Science/the New York Academy of Sciences
- 2011 - 2014 Strategic Advisory Council, International Food Policy Research Institute (IFPRI)
- 2010 - 2012 Participating Member/Steering Committee-Biomarkers on Nutrition for Development (BOND) Project c/o Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health
- 2010 - 2012 Task Team/Transition Team of Scaling Up Nutrition (SUN) Movement
- 2010 - 2011 WHO Nutrition Guidance Expert Advisory Group (NUGAG) on Micronutrients
- 2010 - present Editorial Board, Food and Nutrition Bulletin
- 2010 - present Member, ILSI/SE Asia's Food and Nutrients in Health and Disease Cluster
- 2009 - 2013 Council Member, International Union of Nutritional Sciences (IUNS)
- 2009 - 2011 Scientific Advisory Council, International Obesity Task Force (IOTF)
- 2008 - 2010 Council Member, World Public Health Nutrition Association (WPHNA)
- 2007 - 2010 Member of Curatorium of the Unilever Research Program within the Chair 'Micronutrients and International Health, Division of Human Nutrition, Wageningen University, the Netherlands
- 2007 - 2009 Chair, Scientific Program Committee, 19th International Congress of Nutrition-2009
- 2006 - 2010 Member, Steering Committee, Micronutrient Forum (USAID)
- 2006 - 2008 Co-Chair of the United Nations Standing Committee on Nutrition-Working Group on Capacity Development
- 2002 - present Curator, International Journal for Vitamin and Nutrition Research
- 2002 - 2007 Global Steering committee of the Ellison Medical Foundation – International Nutrition Foundation Fellowship Program
- 2002 - 2008 Chair, Asian Task Force for Capacity Strengthening in Nutrition (under UN-SCN Working Group on Capacity Development)



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- 2002 - present Vitamin A Correspondent – Sight and Life Newsletter
2001 - 2009 Member of the ILSI/South East Asia Micronutrient and Food Fortification Task Force
2000 - 2012 Steering Committee, International Zinc Nutrition Consultative Group (IZiNCG)
- 2003 - 2006 Regional Coordinator, IAEA Regional Project on Monitoring of Food Fortification Programs Using Nuclear Techniques
1999 - 2003 National Coordinator, IAEA Regional Project on Measuring the Effectiveness of Multinutrient Supplementation

National and International Consultancy Positions

- 2020-2025 Eminent Panel; National Policy Council on Higher Education, Science, Research and Innovation, Thailand
2018-present Chair, Sub-Committee on Agriculture and Nutrition, Office of Atoms for Peace (Thailand)
2016-2017 Steering Committee, FoodInnopolis Thailand c/o Ministry of Science and Technology
2016-present Board of Directors, Ajinomoto Foundation/Thailand
2015-present Nutrition Advisor, Global Innovation Center, Thai Union Group
2014-present Member, Early Life Nutrition Network/Thailand
2009-2015 Chair, Sub-Committee on Food and Nutrition, Office of Atoms for Peace/Thailand
2009-present Advisor, Nutrition Association of Thailand
June 2011 High Level Expert Panel – Evaluation of FAO's Role and Work in Nutrition
October 2010 National Consultant – IAEA on 'Review and Finalize Country Program Framework of Thailand'
April 2008 Consultant – WHO on 'Training Needs Assessment for Postgraduate Diploma in Nutrition in Cambodia'
October 2006 Expert – FAO Regional Expert Consultation of the Asia-Pacific Network for Food and Nutrition on Nutrition Orientation to Food Production
April 2003 Expert - WHO Technical Consultation on 'Guidelines on Food Fortification with micronutrients'
1999- 2002 Technical Consultant, USAID/MOST Project concerning micronutrients
July 1999 Regional Expert – IAEA on preparation of Regional Technical Co-operation Project RAS 7010 'Measurement of multinutrient supplementation'
1993 - 1992 *Consultant.* USAID/Vitamin A Field Project concerning SEARO Network food analysis activity.
1993 - 1992 *Technical consultant.* "Conjunctival impression cytology for the vitamin A fortification study"; the Nutrition Center of the Philippines; Manila, Philippines.
1992 *Technical consultant.* "Prevalence survey of vitamin A deficiency in Southern Thailand; Division of Nutrition, Department of Health; Ministry of Public Health; Bangkok, Thailand.
Mar 1991 - *Technical consultant.* "Project on vitamin A survey in the North and
Jan 1990 Northeast preschool children"; Division of Nutrition, Department of Health; Ministry of Public Health; Bangkok, Thailand.
Dec. 1990 *UNICEF consultant.* "Training of conjunctival impression cytology to assess vitamin A deficiency for medical officers"; Yangon, Myanmar



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Publications

1. Nimmannun K, Davis CR, Srisakda P, Gannon BM, Tanumihardjo SA, Udomkesmalee E. Breast Milk Retinol Concentrations Reflect Total Liver Vitamin A Reserves and Dietary Exposure in Thai Lactating Women from Urban and Rural Areas. *J Nutr* 2022; DOI: 10.1093/jn/nxac223
2. Parikh P, Semba R, Swaminathan S, *Udomkesmalee E*, Bos R, Poh BK, Rojroongwasinkul N, Geurts J, Sekartini R, Nga TT. Animal source foods, rich in essential amino acids, are important for linear growth and development of young children in low- and middle-income countries. *Matern Child Nutr*. 2021;e13264. <https://doi.org/10.1111/mcn.13264>
3. Pinkaew S, *Udomkesmalee E*, Davis CR and Tanumihardjo SA. Vitamin A-fortified rice increases total body vitamin A stores in lactating Thai women measured by retinol isotope dilution: a double-blind, randomized, controlled trial. *Am J Clin Nutr*; 2021: 113 (5) : 1372-1380
4. Schulze KJ, Gernand AD, Khan AZ, S-F Wu L, Mehra S, Shaikh S, Ali H, Shamim AA, Sungpuag P, *Udomkesmalee E*, Labrique AB, West KP and Christian P. Newborn micronutrient status biomarkers in a cluster-randomized trial of antenatal multiple micronutrient compared with iron folic acid supplementation in rural Bangladesh. *Am J Clin Nutr*; 2020;00:1–10.
5. Branca F, Demaio A, *Udomkesmalee E*, Baker P, Aguayo VM, Barquera S, Dain K, Keir L, Lartey A, Mugambi G, Oenema S, Piwoz E, Richardson R, Singh S, Sullivan L, Verburg G, Fracassi P, Mahy L, Neufeld LM. A new nutrition manifesto for a new nutrition reality. *Lancet* 2019; published online [https://doi.org/10.1016/S0140-6736\(19\)32690-X](https://doi.org/10.1016/S0140-6736(19)32690-X)
6. Raiten DR, Darnton-Hill I, Tanumihardjo SA, Suchdev PS, *Udomkesmalee E*, Martinez C, Mazariegos DI, Mofu M, Kraemer K, and Martinez H. Perspective: Integration to Implementation (I-to-I) and the Micronutrient Forum—Addressing the Safety and Effectiveness of Vitamin A Supplementation. *Adv Nutr* 2019;00:1–15.
7. Bourassa MW, Osendarp SJM, Adu-Afarwuah S, Ahmed S, Ajello C, Bergeron G, Black R, Christian P, Cousens S, de Pee S, Dewey KG, El Arifeen S, Engle-Stone R, Fleet A, Gernand AD, Hoddinott J, Klemm R, Kraemer K, Kupka R, McLean E, Moore SE, Neufeld LM, Persson LA, Rasmussen KM, Shankar AH, Smith E, Sudfeld CR, *Udomkesmalee E*, and Vosti SA. Review of the evidence regarding the use of antenatal multiple micronutrient supplementation in low- and middle-income countries. *Ann NY Acad Sci* 2019; 1444: 6–21. doi: 10.1111/nyas.14121
8. Schulze KJ, Mehra S, Shaikh S, Ali H, Shamim AA, Wu L S-F, Mitra M, Arguello MA, Kmush B, Sungpuag P, *Udomkesmalee E*, Merrill R, Klemm RDW, Ullah B, Labrique AB, West, KP and Christian P. Antenatal Multiple Micronutrient Supplementation Compared to Iron-Folic Acid Affects Micronutrient Status but Does Not Eliminate Deficiencies in a Randomized Controlled Trial Among Pregnant Women of Rural Bangladesh. *J Nutr* 2019;149:1260–1270.
9. de Silva A, Untoro J, Blankenship J, *Udomkesmalee E*. Regional Overview on Maternal Nutrition and Examples of Health System Programme and Policy Responses: Asia and the Pacific. *Ann Nutr Metab* 2019; 75: 131-134.



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10. Ferguson EL, Watson L, Berger J, Chea M, Chittchang U, Fahmida U, Khov K, Sengchanh Kounnavong S, Mai LB, Rojroongwasinkul N, Santika O, Sok S, Sok D, Do TT, Thi LT, Vonglokhom M, Wieringa F, *Wasantwisut E*, Winichagoon P. Realistic food-based approaches alone may not ensure dietary adequacy for women and young children in South-East Asia. *Maternal and Child Health Journal* 2019; 23 (Suppl 1):S55–S66.
<https://doi.org/10.1007/s10995-018-2638-3>
11. Roos N, Campos Ponce M, Doak CM, Dijkhuizen M, Polman K, Chamnan C, Khov K, Chea M, Prak S, Kounnavong S, Akkhavong K, Mai LB, Lua TT, Muslimatun S, Famida U, *Wasantwisut E*, Winichagoon P, Doets E, Greffeuille V, Wieringa FT, Berger J. Micronutrient status of populations and preventive nutrition interventions in South East Asia. *Maternal and Child Health Journal* 2019; 23 (Suppl 1):S29–S45.
<https://doi.org/10.1007/s10995-018-2639-2>
12. Independent Expert Group (*Emorn Udomkesmalee* as a member). *Global Nutrition Report 2018: Shining a Light to Spur Action on Nutrition*. Development Initiatives, Bristol UK, 2018.
13. National Academies of Sciences, Engineering, and Medicine. 2018. Harmonization of approaches to nutrient reference values: Applications to young children and women of reproductive age. Washington, DC: The National Academies Press. doi: <https://doi.org/10.17226/25148>. (*Emorn Udomkesmalee* as a Committee Member)
14. Chaimongkol L, Winichagoon P, Rojroongwasinkul N, *Wasantwisut E*. Development and validation of a dietary iron score for screening populations at risk for inadequate iron intake. *Mal J Nutr* 2018; 24(4): 493-506.
15. Independent Expert Group (*Emorn Udomkesmalee* as a member). *Global Nutrition Report 2017: Nourishing the SDGs*. Development Initiatives, Bristol UK, 2017.
16. Independent Expert Group (*Emorn Udomkesmalee* as a member). *Global Nutrition Report 2016: From Promise to Impact. Ending Malnutrition by 2030*. International Food Policy Research Institute, Washington DC, 2016.
17. Independent Expert Group (*Emorn Udomkesmalee* as a member). *Global Nutrition Report 2015: Actions and Accountability to Advance Sustainable Development*. International Food Policy Research Institute, Washington DC, 2015.
18. Hawkes C, Haddad L, *Udomkesmalee E*. *The Global Nutrition Report 2015: what we need to do to advance progress in addressing malnutrition in all its forms*. Invited Editorial. *Public Health Nutrition* 2015; 18 (17): 3067-9
19. Winichagoon P and *Udomkesmalee E*. Vitamin A: Discrimination and integration. *World Nutrition* 2015; 6(4): 322-6.
20. Shamim AA, Schulze K, Merrill RD, Kabir A, Christian P, Shaikh S, Wu L, Ali H, Labrique AB, Mehra S, Klemm R, Rashid M, Sungpuag P, *Udomkesmalee E*, West KP, Jr. First trimester plasma tocopherols are associated with risk of miscarriage in rural Bangladesh. *Am J Clin Nutr* Nov 2014; doi:10.3945/ajcn.114.094920



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21. Haddad L, Achadi E, Ag Bendeck M, Ahuja A, Bhatia K, Bhutta Z, Blossner M, Borghi E, Colecraft E, de Onis M, Eriksen K, Fanzo J, Flores-Ayala R, Fracassi P, Kimani E, Nago Koukoubou E, Krasevec J, Newby H, Nugent R, Oenema S, Martin-Prevel Y, Randel J, Raquejo J, Shyam T, *Udomkesmalee E*, Reddy KS. The Global Nutrition Report 2014. Actions and Accountability to Accelerate the World's Progress on Nutrition. *J Nutr* doi: 10.3945/jn.114.206078.
22. Independent Expert Group (*Emorn Udomkesmalee* as a member). Global Nutrition Report 2014: Actions and Accountability to Accelerate the World's Progress on Nutrition. International Food Policy Research Institute, Washington DC, 2014.
23. Lopez-Teros V, Chileshe J, Idohou-Dosso N, Fajarwati T, Medoua Nama G, Newton S, Vinod Kumar M, Wang Z, *Wasantwisut E*, and Hunt JR. International experiences in assessing vitamin A status and applying the vitamin A-labeled isotope dilution method. *Int J Vitam Nutr Res* 2014; 84 (Suppl 1): 40-51. doi: 10.1024/030G9831/a000i84
24. Pinkaew S, Wegmuller R, *Wasantwisut E*, Winichagoon P, Hurrell RF, Tanumihardjo SA. Triple-Fortified Rice Containing Vitamin A Reduced Marginal Vitamin A Deficiency and Increased Vitamin A Liver Stores in School-Aged Thai Children. *J Nutr*. 2014; 144:519-52
25. Berger J, Blanchard G, Campos Ponce M, Chamnan C, Chea M, Dijkhuizen M, Doak C, Doets E, Fahmida U, Ferguson E, Hulshof P, Kameli Y, Kuong K, Kongsap A, Kounavong S, Le Bach Mai, Thi Lua Tran, Muslimatun S, Roos N, Sophonneary P, Wieringa F, *Wasantwisut E*, Winichagoon P, for the SMILING Consortium group. The SMILING project: A North-South-South collaborative action to prevent micronutrient deficiencies in women and young children in South East Asia. *Fd Nutr Bull* 2013; 34: S133-139.
26. Bloem MW, de Pee S, Hop le T, Khan NC, Laillou A, Minarto, Moench-Pfanner R, Soekarjo D, Soekirman, Solon JA, Theary C, *Wasantwisut E*. Key strategies to further reduce stunting in Southeast Asia: lessons from the ASEAN countries workshop. *Fd Nutr Bull* 2013;34(2 Suppl):S8-16.
27. Wasantwisut E, Neufeld L. Use of nutritional biomarkers in program evaluation in the context of developing countries. *J Nutr* 2012; 142:186S-190S.
28. Wasantwisut E. Moving towards evidence-based policy and program planning in multiple micronutrient interventions for children: symposium summary. *J Nutr* 2011; 141: 2092-2094.
29. Chaimongkol L, Pinkaew S, Furr HC, Craft NE, Wasantwisut E, Winichagoon P. Performance of the CRAFTi portable fluorometer comparing with the HPLC method for determining serum retinol. *Clin Biochem* 2011; 44: 1030-1032.
30. Nga TT, Winichagoon P, Dijkhuizen MA, Khan NC, Wasantwisut E, Wieringa FT. Deworming and consumption of multi-micronutrient fortified biscuits decreased parasite load and improved some cognitive outcomes in rural Vietnamese schoolchildren. *Am J Trop Med Hyg* 2011; 85 (2): 333-340.



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31. Raiten DJ, Namaste S, Brabin B, Combs Jr G, L'Abbe MR, Wasantwisut E, Darnton-Hill I. Executive summary - Biomarkers of Nutrition for Development: building a consensus. *Am J Clin Nutr* 2011; 94 (suppl):633S-50S.
32. Tuntipopipat S, Boonpraderm A, Charoenkiatkul S, *Wasantwisut E*, Winichagoon P. Dietary intake of spices and herbs in habitual Northeast Thai diets. *Mal J Nutr* 2010; 16(1): 137-148.
33. Nga TT, Winichagoon P, Dijkhuizen MA, Khan NC, *Wasantwisut E*, Furr H, Wieringa FT. Multi-micronutrient-fortified biscuits decreased prevalence of anemia and improved micronutrient status and effectiveness of deworming in rural Vietnamese school children. *J Nutr* 2009; 139: 1013-21.
34. Plaimast H, Sirichakwal PP, Puwastien P, Judprasong K, *Wasantwisut E*. *In vitro* bioaccessibility of intrinsically zinc-enriched egg and effect of cooking. *J Fd Comp Anal* 2009; 22: 627-631.
35. James P, Rojroongwasinkul N, Rikshasuta T, *Wasantwisut E*. Food imports and dietary change: A perspective from Thailand. In: Hawkes C, Blouin C, Henson S, Drager N, Dube L (eds), *Trade, Food, Diet and Health: Perspectives and Policy Options*. London: Wiley-Blackwell, 2009.
36. Klemm RDW, Harvey PWJ, Wainwright E, Faillace S, *Wasantwisut E*. *Micronutrient Programs: What Works and What Needs More Work? A Report of the 2008 Innocenti Process*. August 2009, Micronutrient Forum, Washington, DC, USA.
37. Nga TT, Winichagoon P, Dijkhuizen MA, Khan NC, *Wasantwisut E*, Furr H, Wieringa FT. Multi-Micronutrient-fortified biscuits decreased prevalence of anemia and improved micronutrient status and effectiveness of deworming in rural Vietnamese school children. *J Nutr* 2009;139: 1013-1021.
38. Dijkhuizen MA, Winichagoon P, Wieringa FT, Wasantwisut E, Utomo B, Ninh NX, Hidayat A, Berger J. Zinc supplementation improved length growth only in anemic infants in a multi-country trial of iron and zinc supplementation in South-East Asia. *J Nutr* 2008;138:1969-75.
39. Manger MS, McKenzie JE, Winichagoon P, Gray A, Chavasit V, Pongcharoen T, Gowachirapant S, Ryan B, *Wasantwisut E*, Gibson RS. A micronutrient fortified seasoning powder reduces morbidity, improves short term cognitive function, but has no effect on anthropometry in primary school children in North East Thailand: A randomized controlled trial. *Am J Clin Nutr* 2008; 87: 1715-1722.
40. Gorstein JL, Dary O, Sungpuag P, Shell-Duncan B, Quick T, *Wasantwisut E*. Feasibility of using retinol-binding protein from capillary blood specimens to estimate serum retinol concentrations and the prevalence of vitamin A deficiency in low-resource settings. *Public Health Nutr*. 2008 May;20-513:(5)11.
41. Wieringa FT, Berger J, Dijkhuizen MA, Hidayat A, Ninh NX, Utomo B, *Wasantwisut E*, Winichagoon P. Sex differences in prevalence of anaemia and iron deficiency in infancy in a large multi-country trial in South-East Asia. *Br J Nutr* 2007: 98 (5): 1070-1076.



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42. Wieringa FT, Berger J, Dijkhuizen MA, Hidayat A, Ninh NX, Utomo B, *Wasantwisut E*, Winichagoon P. Combined iron and zinc supplementation in infants improved iron and zinc status, but interactions reduced efficacy in a multi-country trial in Southeast Asia. *J Nutr* 2007; 137(2): 466-471.
43. Tuntipopipat S, Judprasong K, Zeder C, *Wasantwisut E*, Winichagoon P, Charoenkiatkul S, Hurrell R, Walczyk T. Chili, but not turmeric, inhibits iron absorption in young women from an iron-fortified composite meal. *J Nutr* 2006; 136: 2970-2974.
44. Winichagoon P, McKenzie JE, Chavasit V, Pongcharoen T, Gowachirapant S, Boonpradern A, Manger Ms, Bailey KB, *Wasantwisut E*, Gibson RS. A multimicronutrient-fortified seasoning powder enhances the hemoglobin, zinc and iodine status of primary school children in Northeast Thailand: A randomized controlled trial of efficacy. *J Nutr* 2006; 136: 1617-1623.
45. Wasantwisut E, Winichagoon P, Chitchumroonchokchai C, Yamborisut U, Boonpradern A, Pongcharoen T, Sranacharoenpong K, Russameesopaphorn W. Iron and zinc supplementation improved iron and zinc status, but not physical growth, of apparently healthy, breast-fed infants in rural communities of Northeast Thailand. *J Nutr* 2006; 136: 1-7.
46. Thurlow RA, Winichagoon P, Pongcharoen T, Gowachirapant S, Boonpradern A, Manger MS, Bailey KB, *Wasantwisut E*, Gibson RS. Risk of zinc, iodine and other micronutrient deficiencies among school children in Northeast Thailand. *Eur J Clin Nutr* 2006; 60(5): 623-632.
47. Walczyk T, Tuntipopipat S, Zeder C, Sirichakwal P, *Wasantwisut E*, Hurrell RF. Iron absorption by human subjects from different iron fortification compounds added to Thai fish sauce. *Eur J Clin Nutr* 2005; 59:668-674.
48. Furr HC, Green MH, Haskell M, Kokhtar N, Nestel P, Newton S, Ribaya-Mercado JD, Tang G, Tanumihardjo S, and *Wasantwisut E*. Stable isotope dilution techniques for assessing vitamin A status and bioefficacy of provitamin A carotenoids in humans. *Public Health Nutrition* 2005; 8 (6):596-607.
49. Thurlow RA, Winichagoon P, Green T, *Wasantwisut E*, Pongcharoen T, Bailey KB, Gibson RS. Only a small proportion of anemia in northeast Thai schoolchildren is associated with iron deficiency. *Am J Clin Nutr* 2005; 82(2): 380-387.
50. Gowachirapant S., Sungpuag P., Tuntipopipat S., *Wasantwisut E*, Kosulwat V. and Pattanapanyasat K. Effect of Carrot Consumption on Plasma Carotenoids and Lymphocyte Subpopulations in Healthy Subject. *J Nutr Assoc Thailand* 2003;38 (4):7-18.
51. International Zinc Nutrition Consultative Group (IZiNCG), Brown KHB, Rivera JA, Bhutta Z, Gibson R, King JC, Lonnerdal B, Ruel MT, Sandstrom B, *Wasantwisut E*, Hotz C, Lopez de Romana D, Peerson JM. International Zinc Nutrition Consultative Group (IZiNCG) Technical Document #1, Assessment of the Risk of Zinc Deficiency in Populations and Options for its Control. *Fd Nutr Bull* 2004; 25 (supplement 2): s99-s203.



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52. *Wasantwisut E.* Efficacy of plant foods in meeting vitamin A requirement. In: Seshadri M, Siddhu A, eds. Proceedings of IX Asian Congress of Nutrition: Nutrition Goals for Asia-Vision 2020. New Delhi: Nutrition Foundation of India. 2003, pp 304-308.
53. *Wasantwisut E,* Viriyapanich T. Ivy Gourd (*Coccinia grandis* Voigt, *Coccinia cordifolia*, *Coccinia indica*) in Human Nutrition and Traditional Applications. In: Simopoulos AP, Gopalan C (eds), Plants in Human Nutrition Policy. World Rev Nutr Diet. Basel, Karger, 2003, vol 91, pp 60-66.
54. Chavasit V, Pisaphab R, Sungpuag P, Jittinandana S, *Wasantwisut E.* Changes in b-carotene and vitamin A contents of vitamin A rich foods in Thailand during preservation and storage. J Food Sci 2002; 67: 375-379.
55. *Wasantwisut E.* Application of isotope dilution technique in vitamin A nutrition. Fd Nutr Bull 2002; 23: 103-106.
56. *Wasantwisut E.* Recommendations for Monitoring and Evaluating Vitamin A Programs: Outcome Indicators. J. Nutr. 2002;132: 2940s-2942s.
57. Pratumvong K, Sirichakwal P, *Wasantwisut E,* Viriyapanich T, Banjong O. Nutritional status of rural preschool children feeding with lysine-fortified rice and glutinous rice. J Nutr Assoc Thai 2002; 37: 7-15.
58. *Wasantwisut E,* Rosado JL, Gibson RS. Nutritional Assessment : Methods for selected micronutrients and calcium. The Encyclopedia of Life Support System (EOLSS), UNESCO, 2001.
59. *Wasantwisut E,* Chittchang U, Sinawat S. Moving a health system from a medical towards a dietary approach in Thailand. Fd Nutr Bull 2000; 21(2): 157-160.
60. Chittchang U, Jittinandana S, Sungpuag P, Chavasit V, *Wasantwisut E.* Recommending vitamin A - rich foods in Southern Thailand. Fd Nutr. Bull 1999; 20(2): 238-242.
61. Sungpuag P, Tangchitpianvit S, Chittchang U, *Wasantwisut E.* "Retinol and beta carotene content of indigenous raw and home prepared foods in Northeast Thailand". Food Chemistry 1999; 64:163-7.
62. Reifen R, *Wasantwisut E.* "Vitamin A in Pediatric Nutrition". In : Reifen R, Lerner A, Branski D., Heyman HSA (eds) : Pediatric Nutrition. Pediatr Adolesc Med. Basel, Karger 1998 vol. 8 pp. 122-135.
63. *Wasantwisut E.* Nutrition and development : Other Micronutrients effect on growth and cognition. Southeast Asian J Trop Med Pub Hlth 1997; 28 (Supl 2): 78-82.
64. Solon FS, Solon MS, Mehansho H, West KP, Sarol J, Perfecto C, Nano T, Sanchez L, Isleta M, *Wasantwisut E,* Sommer A. "Evaluation of the effect of vitamin A fortified margarine on the vitamin A status of preschool Filipino children." Eur J Clin Nutr 1996; 50: 720-723.
65. *Wasantwisut E.* "Empowering vitamin A foods." Micronutrient and Agriculture 1996; Feb (1): 22-23.



Curriculum Vitae

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66. Thainuea V, *Wasantwisut E*, Attig GA. "Thailand's battle against nutritional blindness." *World Health* 1995; Sep-Oct (5): 27.
67. *Wasantwisut E*, Reddy V, Muhilal. "Vitamin A rich foods: A process of empowerment." In: *Wasantwisut E, Attig GA, Eds, Empowering Vitamin A Foods, A Food-Based Process for Asia and the Pacific Region.* Institute of Nutrition, Mahidol University. 1995 pp 7-14.
68. *Wasantwisut E*, Sungpuag P, Chavasit V, Chittchang U, Jittinandana S, Viriyapanich T. "Identifying and recommending vitamin A rich foods in Northeast Thailand." In: *Wasantwisut E, Attig GA, Eds, Empowering Vitamin A Foods, A Food-Based Process for Asia and the Pacific Region.* Institute of Nutrition, Mahidol University. 1995 pp 69-89.
69. *Wasantwisut E*. et al. "Identification of seasonal vitamin A rich foods and recommended methods of preservation in Northeast Thailand." In: *Attig GA, Dhanamitta S, Eds, INMU Special Publication Series. No.5* 1994.
70. Sungpuag P, *Wasantwisut E*, Dhanamitta S. "Development of a modified semiquantitative dietary assessment for vitamin A consumption." In: *Attig GA, Dhanamitta S, Eds, INMU Special Publication Series. No. 6* 1994.
71. *Wasantwisut E*. "Newer approaches to the assessment of vitamin A status." In: *Wahlqvist ML, Truswell AS, Smith R, Nestel PJ, Eds, Nutrition in a Sustainable Environment.* London: Smith-Gordon/Nishimura. 1994 pp 266-9.
72. Kramer TR, *Udomkesmalee E*, Dhanamitta S, Sirisinha S, Charoenkiatkul S, Tuntipopipat S, Banjong O, Rojroongwasinkul N, Smith JC, Jr. "Lymphocyte responsiveness of children supplemented with vitamin A and zinc." *Am J Clin Nutr* 1993; 58:566-70.
73. *Udomkesmalee E*, Dhanamitta S, Sirisinha S, Charoenkiatkul S, Tuntipopipat S, Banjong O, Rojroongwasinkul N, Kramer T, Smith, JC, Jr. "Effect of supplementation on vitamin A and zinc nutriture of children in Northeast Thailand." *Am J Clin Nutr.* 1992; 56: 50-7.
74. *Udomkesmalee E*. "Assessment Methodologies for Xerophthalmia, Keratomalacia and Child Mortality including Measles." In: *Kupfer C, Gillen T, Eds, World Blindness and its Prevention. Volume 4. International Agency for the Prevention of Blindness.* 1992. pp 177-9.
75. *Udomkesmalee E*. "Vision Restoration Time (VRT): A Procedure Related to Dark Adaptation." In: *Underwood B, Olson JA, Eds, A Brief Guide to Current Methods of Assessing Vitamin A Status.* Washington D.C.: IVACG/ILSI. 1992. pp 21-6.
76. *Udomkesmalee E*. "Overview of Vitamin A: Global Situation and the Thai Experience." In: *Winichagoon P, Kachondham Y, Attig GA, Tontisirin K, eds, Integrating Food and Nutrition into Development. Thailand's Experiences and Future Visions.* Institute of Nutrition, Mahidol University, 1992. pp. 146-152.
77. *Udomkesmalee E*. "Vitamin A deficiency in Asia." *VITAL News* December 1992; Vol. 3 No. 3.
78. *Udomkesmalee E*, Dhanamitta S, Yhoun-Aree J, Rojroongwasinkul N, Smith, JC, Jr. "Biochemical evidence suggestive of suboptimal zinc and vitamin A status in school children in Northeast Thailand." *Am J Clin Nutr* 1990; 52: 564-7.



Curriculum Vitae

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79. Mertz W, Morris ER, Smith JC, Jr., *Udomkesmalee E*, Fields M, Levander O, Anderson RA. "Trace elements in the elderly: Metabolism requirements and recommendations for intakes." In: Munro, HN (ed), Nutrition and Aging. Human Nutrition: A comprehensive Treatise. New York: Plenum Press 1989. pp. 195-244.
80. Viriyapanich T, *Udomkesmalee E*, Chittchang U. Modification of vitamin A units in food. J Nutr Assoc Thailand 1988; 22:297-309.
81. Valyasevi A, *Udomkesmalee E*. "Possible Role of Zinc in Vitamin A Nutritional Status." In: Itokawa Y, Kawashima R, Kotake Y, et al. (eds), Recent Progress in Trace Element in Nutrition. Proceedings of the Fourth Symposium on Trace Nutrients Research, 1987. Kyoto, Japan Trace Nutrients Research Society p. 1149-54.
82. *Udomkesmalee E*, Ferre H, Lovich S, McAdam KPWJ, Solomons NW: "Zinc deficiency in the C3H mouse: Serum alkaline phosphatase and other indices of zinc nutriture." In: Mills CF, Brenner I, Chesters JK (eds), Proceedings of the Fifth International Symposium on Trace Elements in Man and Animals, 1985, p. 590-593. Farnham Royal: Commonwealth Agricultural Bureaux.
83. Siegler RL, Eggert JV, *Udomkesmalee E*: "Diagnostic indices of zinc deficiency in children with renal disease." Ann Clin Lab Sci 11: 428, 1981.



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