

Name Emorn Udomkesmalee (Wasantwisut)
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Current positions: Associate Professor
2007 - present Senior Advisor, Institute of Nutrition, Mahidol University
2009 – present Chair, Sub-Committee on Food and Nutrition, Office of Atoms for Peace.
Advisor, Nutrition Association of Thailand.
2007- present Adjunct Associate Professor, Department of International Health, Johns
Hopkins Bloomberg School of Public Health, USA

Education

1986 - 1987 Postdoctoral 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

Memberships:

American Society for Nutrition
The Nutrition Association of Thailand
World Public Health Nutrition Association

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	Committee member. "Nutrition and Immunity" for International Development; International Union of Nutritional Science (IUNS).
1990 - 1992	Coordinator of Secretariate WHO/SEARO; Nutrition Research-cum-Action Network.
July. 1987- Nov. 1992	Research Nutritionist/Instructor. Institute of Nutrition, Mahidol University (INMU); Nakhon Pathom, Thailand.
1991	(IVACG) Task force member on "Assessment Methodology"; International Vitamin A Consultative Group.
April 1985- June 1986	Research Nutritionist. Institute of Nutrition, Mahidol University (INMU); Nakhon Pathom, Thailand.
Sept. 1984- Jan. 1985	Teaching Assistant. "Applied Biological Instrumentation"; Department of Nutrition and Food Science; Massachusetts Institute of Technology; Massachusetts, USA.
Jan. 1980-	Research Assistant. Department of Food Science and Nutrition; Brigham Young University; Utah, USA.
July - Dec. 1997	Research Assistant. Renal Laboratory; Ramathibodi Hospital; Bangkok, Thailand.

Research Interests and Expertise :

1. Vitamin A - Assessment, Bioavailability, Metabolism, Indigenous food sources
2. Nutrient Interaction : Vitamin A and zinc, iron and zinc
3. Micronutrients' effect on growth and cognition
4. Nutrients and immune function

International Committee

2012 - 2014	The Culinary Institute of America's World of Healthy Flavors Scientific and Public Health Advisory Committee
2011 - 2013	Strategic Advisory Council Member, International Food Policy Research Institute (IFPRI)
2010 - 2012	Partnership Council Member, Global Alliance for Improved Nutrition (GAIN)

- 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 Member of Scaling Up Nutrition (SUN) Initiative
- 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 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 - present Chair, Asian Task Force for Capacity Strengthening in Nutrition (under Un-SCN Working Group on Capacity Development)
- 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 - present 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

- 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

Publications

1. Wasantwisut E, Neufeld L. Use of nutritional biomarkers in program evaluation in the context of developing countries. *J Nutr* 2012; 142:186S-190S.
2. Wasantwisut E. Moving towards evidence-based policy and program planning in multiple micronutrient interventions for children: symposium summary. *J Nutr* 2011; 141: 2092-2094.
3. 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.
4. 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.
5. 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.
6. 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
7. 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
8. 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
9. 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
10. 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.
11. 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
12. 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.
13. 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.
14. 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
15. 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.
 16. 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 multicountry trial in Southeast Asia. *J Nutr* 2007; 137(2): 466-471.
 17. 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.
 18. 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.
 19. 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.
 20. 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.
 21. 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.
 22. 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.
 23. 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.
 24. Gowachirapant S., Sungpuag P., Tuntipopipat S., Wasantwisut E., Kosulwat V. and Pattanpanyasat K. Effect of Carrot Consumption on Plasma Carotenoids and Lymphocyte Subpopulations in Healthy Subject. *J Nutr Assoc Thailand* 2003;38 (4):7-18.
 25. 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.
 26. 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.
 27. 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.
 28. 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.

29. Wasantwisut E. Application of isotope dilution technique in vitamin A nutrition. *Fd Nutr Bull* 2002; 23: 103-106.
30. Wasantwisut E. Recommendations for Monitoring and Evaluating Vitamin A Programs: Outcome Indicators. *J. Nutr.* 2002;132: 2940s-2942s
31. 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
32. Wasantwisut E, Rosado JL, Gibson RS. Nutritional Assessment : Methods for selected micronutrients and calcium. *The Encyclopedia of Life Support System (EOLSS), UNESCO, 2001.*
33. 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.
34. 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.
35. 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.
36. 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.*
37. Wasantwisut E. Nutrition and development : Other Micronutrients effect on growth and cognition. *Southeast Asian J Trop Med Pub Hlth* 1997; 28 (Suppl 2): 78-82.
38. 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.
39. Wasantwisut E. "Empowering vitamin A foods." *Micronutrient and Agriculture* 1996; Feb (1): 22-23
40. Thainuea V, Wasantwisut E, Attig GA. "Thailand's battle against nutritional blindness." *World Health* 1995; Sep-Oct (5): 27.
41. 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.
42. 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.

43. 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.
44. 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.
45. 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.
46. 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.
47. 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.
48. 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.
49. 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.
50. 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.
51. Udomkesmalee E. "Vitamin A deficiency in Asia." *VITAL News* December 1992; Vol. 3 No. 3.
52. 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.
- 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.
53. Viriyapanich T, Udomkesmalee E, Chittchang U. Modification of vitamin A units in food. *J Nutr Assoc Thailand* 1988; 22:297-309.
54. 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.
55. 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.
56. Siegler RL, Eggert JV, Udomkesmalee E: "Diagnostic indices of zinc deficiency in children with renal disease." *Ann Clin Lab Sci* 11: 428, 1981.