Profile

NATEETIP KRISHNAMRA

Bone : June 1, 1951 in Bangkok, Thailand
Family: Second child of Mr.Term and Mrs.Raevadee Thapthimthong
Husband: Professor Somroek Krishnamra
Children: Mr.Somkrit Krishnamra, married to Mrs.Wilasinee Krishnamra with two sons, Kris and Trisnat Krishnamra
Address: 10 Sukumvit 7, Wattana District, Bangkok 10110

Education

1963 Primary School, Wattana Wittayalai, Bangkok
1967 Secondary School, Wattana Wittayalai, Bangkok
1971 Ashford School, Kent, UK
1974 B.Sc. (First Class Honours), Biological Sciences, Westfied – Queen Mary College, London University, UK
1977 M.Sc., Physiology, Mahidol University
1980 Ph.D., Physiology, Mahidol University

Working Experiences:

Academic Position

1974 Lecturer at Department of Physiology, Faculty of Science, Mahidol University
1981 Assistant Professor
1987 Associate Professor
1996 Professor

Other Positions Held

1999 – 2002 Vice Dean (Policy and Planning) Faculty of Science, Mahidol University
2002 – 2007 Advisory Board to Dean, Faculty of Science
2003 – 2007 Chair, Graduate Program, Department of Physiology
1999 – present Academic Position Assessment Subcommittee, Mahidol University
1999 – present Chair, Academic Position Assessment Committee, Faculty of Science
2003 - present Head,center of Calcium and Bone Research (COCAB), Faculty of Science

Academic Service

- Editorial Board, Physiological Reports, Wiley&Son
- Reviewer of research papers for publication in local and international journals
- Reviewer of research proposals and reports forgrants from Thailand Research Fund (TRF) and

National Center for Genetic Engineering and Biotechnology (BIOTEC)

Awards and Honors:

- Excellent Science Student Award from Professor Dr.Tab Nilanidhi Foundation
- Best Lecturer Award 2002, Faculty of Science, Mahidol University
- Senior Research Scholar Award, Thailand Research Fund (TRF) 2004 and 2007
- Outstanding Alumni Award , Wattana Wittayalai Alumni
- Outstanding Woman Scientist for Sustainable Development Award, L'Oreal (Thailand) and the Thai National Commission for UNESCO,2009

Achievements

Research:

Professor Dr.Nateetip is a fundamental life science researcher specializing in Physiology which is the study of body function covering various levels of organization from cellular level , tissue level, organ system to whole body. Physiology is the fourdation for applied sciences such as medicine, veterinary science and other health science disciplines. For the past three decades, Professor Nateetip has been continuously contributing new knowledge to the field of calcium and bone metabolism ,which only recently received interest from academicians in Thailand. This is because metabolic bone diseases have typically slow progress, are difficult to diagnose in the early stages of the diseases, occur more in elderly people, and do not cause sudden death or require urgent treatment. However, bone disease prevalence in Thailand has risen sharply in the last twenty years due to the economic development and progress in science and technology that lead to an increase in the elderly population. High prevalence of bone diseases will undoubtedly have negative socio – economic impact in the near future. This is why Professor Nateetip and her team give priority to research in this field. Their scientific approach encompasses studies at multilevels of organization to understand the basic regulation of calcium balance and bone metabolism and changes that occur in pathophysiological conditions, such as postmenopausal osteoporosis, and osteoporosis caused by diabetes mellitus and Thalassemia, which hopefully will lead to prevention of the disease, early detection of the pathological changes, as well as better treatment. Because the etiology of bone diseases is multifactorial, from abnormal bone cells, abnormal intestinal absorption of calcium or inadequate calcium intake to malfunction of various hormones that regulate calcium and bone, multidisciplinary research approach deems necessary. Many techniques are needed, for instance, for instance, electrophysiology, biochemical and molecular biology techniques, immunocytochemistry and immunohistochemistry, as well as bioinformatics and techniques andtechniques for quantifying bone remodeling and bone strength. Professor Nateetip has been studying the pathophysiology of osteoporosis associated with various pathological conditions, such as postmenopausal osteoporosis and diabetes – induced osteoporosis. Since the causes of these bone disorders are multifactorial and involve many organ systems in the body, the study requires specialized and sophisticated techniques, as well as some cases, special experimental animal models eg. transgenic animals. In order to tackle the research question by using multidisciplinary apporch, Professor Nateetip

founded in 2002 the **Center of calcium and Bone Research (COCAB)** which is a research unit in the Center of Excellence in Research at the Faculty of Science, Mahidol University with members from her laboratory as well as from other universities. COCAB focuses on studying the cellular mechanism of calcium exchanges among the three major calcium absorption, the regulation of calcium exchanges among the three major calcium handling organs, namely, interstine, kidney, and bone, and the cellular regulation of bone remodeling or bone turnover in normal normal condition as well as in certain pathophysiologic conditions.

Regarding some of her research output, Professor Nateetip and her team are the first group to discover that Prolactin, a hormone secreted from the pituitary and is known as a milk-producing hormone in lactation, can increase the rate of calcium absorption in the intestine, thus resulting in accumulation of extra calcium in bone. The action of this novel calcium regulating hormone is quite complex, for example, prolactin stimulates bone turnover with a net increase in bone mass in young rats, while inducing bone loss in lactating and aged rats. This action of prolactin could be responsible for osteoporosis found in patients with prolactinomas. The extensive study of this novel role of prolactin is indeed a perfect example of multidisciplinary research. At present, Professor Nateetip and her team are also studying the effects and mechanism of action of Fibroblast growth factor – 23 (FGF – 23) , which may prove to be an important hormone in the negative feedback loop that controls calcium and phosphate balance in the body.

Human Resource Development:

Professor Nateetip has acted as the major advisor for 31 graduates in physiology in physiology (12 Ph.D., 19 M.Sc.), coadvisor for more than 20 graduates, and is at present supervising 3Ph.D., 2 M.Sc. students and coadvising 5 students. Her former students have become successful in their respective careers, with some becoming professors (Prof. Dr.Jonggonnee wattanapermpool who is the present chairperson of the Department of Physiology, Faculty of Science, Mahidol University and Prof. Dr.Narattaphol Charoenphandhu who received numerous national awards including young Scientist Award from the Thailand Research Fund in 2008 and Mahidol University Research Award in 2010) and Soonthree Chanlongbutra, who becomes a successful business woman running her company Techno Medical Co., Ltd. The twice-yearly reunion of former and present studenst and their families hosted by professor Nateetip over the past 25 years brings together an excellent recllent recruitment opportunity for various academic institutions.

In addition, Professor Nateetip acts as mentor for many young scientists and advisor for anyone seeking advice on research,academic promotion and work in general. Her students learn from Professor Nateetip that a good teacher never stops learning and is always happy and willing to pass on the knowledge and experience to the next generation.

Acknowledgement:

I would like to express my deepest appreciation to the Thailand Toray Science Foundation for this prestigious "20 th Thailand Toray Science and Technology Award 2013" I would like to thank the Foundation award committee for their appreciation of the significance of my field of work , Physiology which is a basic medical science discipline. I thank them especially for their understanding of the importance of fundamental research, which might not deliver products that can be put to use right away, but instead provides explanation for the normal processes that occur in our body and understanding of their underlying cellular mechanisms. Indeed, these basic knowledge are crucial keys that will lead to understanding of the pathophysiology and etiology of diseases, and hopefully will lead to better prevention and treatment.

I would also like to express my gratitude to Khunying Jada Wattanasiritham for introducing me to the Faculty of Science, Mahidol University where my career started. I am also indebted to my mentor, Professor Dr. Liangchai Limlomwongse, who was my advisor for M.Sc. and Ph.D. dissertation, who taugjt me how to think and work like a scientist, and not just todo well but to excel. I would like to thank the administrators of the Faculty of Science, Mahidol University, especially Professor Dr. Amaret Bhumiratana, the former Dean whose support and encouragement contributed singnificantly to my achievement, my colleagues and my former and present graduate students in the Depratment and Center of Calcium and Bone Research as well as the National Laboratory Animal Center of Thailand that have significant rote in my success.

Research grants from the National Research Council of Thailand, the Thailand Research Fund' and the National Center for Genetic Engineering and Biotechnology, as well as "Outstanding Woman Scientist for Sustainable Development Award" from L' Oreal (Thailand) and the National Commission for UNESCO (Thailand) were gratefully acknowledged. Finally, I would like to express my gratitude to my parents for their loving care and for providing the best education, to my brothers for their love and support, and to my loving family who makes me one of the luckiest people.