Avanelle Kirksey Lecture Series

Dr. Avanelle Kirksey, a valued faculty member of the Department of Nutrition Science 1961-1994, left a legacy at Purdue University. Her ground-breaking research, valued teaching, and community outreach efforts are honored with this lecture series.

Purdue University Department of Nutrition Science presents:

“Premature Infant Nutrition: Work in Progress”

Friday, April 24, 2015 • In Stewart Center, Room 218A

Immediately following the seminar there will be a light lunch reception in the Anniversary Drawing Room of the Purdue Memorial Union.

Please phone reservation by April 1. Call 765-494-8231 or Health and Human Sciences Development Office at 1-800-535-7303 to respond or for more information. Seating is Limited.

EKHARD ZIEGLER, Ph.D., Professor of Pediatrics-Neonatology, University of Iowa, Carver College of Medicine

Dr. Ekhard Ziegler attended high school in Salzburg, Austria, where he got deeply immersed in the medical culture that dates from the years Mozart lived and worked there. He received his medical education at the University of Innsbruck. In 1968 he took time off from his pediatric residency and went to Iowa to train with Dr. Samuel J. Fomon. Iowa at the time was the Mecca of infant nutrition research. After 2 years Dr. Ziegler went back to Innsbruck to complete his pediatric residency. But the lure of Iowa was too strong and within three years he was back in Iowa where he has been ever since. He began to practice neonatal medicine and that is what led eventually to his strong interest in nutrition of premature infants.

His research was integrated with that of the Fomon Group, which involved a strong interest in body composition, the use of metabolic balance studies to assess nutrient absorption and of growth studies to evaluate the effects of various disturbances of food composition and intake. Dr. Ziegler was able to carve out little areas of his own special interest, such as the effect of cow’s milk on occult intestinal blood loss, and the effect of diet on renal solute load. In analogy to Dr. Fomon’s use of body composition to obtain estimates of nutrient needs of infants, Dr. Ziegler, together with several colleagues, constructed a model of the human fetus. This permitted the derivation of estimates of nutrient needs of the growing premature infant. These estimates have stood the test of time and still form the basis for recommended nutrient intakes today. The realization of the extraordinarily high nutrient needs of the growing premature infant led to the creation of special formulas for premature infants and of human milk fortifiers. A prototype fortifier was used at Iowa for 8 years until it was replaced by commercially available fortifiers.

Meanwhile research of the Fomon group developed a strong emphasis on the use of stable isotopes, especially of iron, for the assessment of mineral absorption. This area proved highly productive and resulted in the conduction of several landmark studies. With time Dr. Ziegler developed his own interest in iron nutrition of the breastfed infant. In several studies he evaluated various forms of iron supplementation with a view toward prevention of iron deficiency. Another area was vitamin D supplementation among breastfed infants. His first love, however, remains the premature infant. Because of its strong protective effects against sepsis and necrotizing enterocolitis, human milk is the preferred feeding for premature infants. But the nutrient content of human milk is inadequate for premature infants and hence the need for nutrient fortification. The inadequacy of our methods for nutrient fortification is one reason why premature infants continue to show growth retardation, which is associated with impaired neurocognitive development.

Dr. Ziegler is cofounder of the Mother’s Milk Bank of Iowa.

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