

## PREFACE

The chapters in this volume stem from the fifth in a series of conferences designed to assist nutritionists in employing mathematical modeling in their research. There is increasing controversy over whether nutrient requirements should be based solely on the minimum intakes needed to avoid overt deficiency diseases. Resolution of such questions is critical to determining the optimum nutrient intake at the various stages of life and under various physiological and/or pathological stresses. Mathematical modeling offers a powerful tool for evaluating and simulating the functioning of complex metabolic systems. In addition to presenting general information on modeling (Canolty and Cain, 1985, 1988), past conferences in this series have focused on the application to amino acid (Abumrad, 1991), carbohydrate (Abumrad, 1991), and mineral metabolism (Siva Subramanian and Wastney, 1995). The goals for this conference were to provide a workshop on the use of the Simulation, Analysis, and Modeling program (SAAM) developed at NIH plus presentations on application of modeling to vitamins and proteins, methods that might be useful for manipulating metabolic systems and obtaining the kinetic data needed for modeling, and mathematical theory and procedures relevant to modeling.

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