

1. Record Nr.	UNINA9910971029703321
Titolo	Opportunities in the nutrition and food sciences : research challenges and the next generation of investigators / / Committee on Opportunities in the Nutrition and Food Sciences, Food and Nutrition Board, Institute of Medicine ; Paul R. Thomas and Robert Earl, editors
Pubbl/distr/stampa	Washington, D.C., : National Academy Press, 1994
ISBN	9786610211326 9781280211324 1280211326 9780309585415 0309585414 9780585021744 0585021740
Edizione	[1st ed.]
Descrizione fisica	1 online resource (328 p.)
Altri autori (Persone)	ThomasPaul R. <1953-> EarlRobert O
Disciplina	613.2/072
Soggetti	Nutrition - Research Food - Research
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 269-280) and index.
Nota di contenuto	""OPPORTUNITIES IN THE NUTRITION AND FOOD SCIENCES""; ""Copyright""; ""Dedication""; ""Foreword""; ""Preface""; ""ORGANIZATION OF THIS REPORT""; ""Acknowledgments""; ""Contents""; ""Summary and Conclusions""; ""A PRESIDENTIAL INITIATIVE FOR THE NUTRITION AND FOOD SCIENCES""; ""Research""; ""Nutrients and Biologically Active Food Constituents in Development, Cell Differentiation, Growth, Maturation, and Aging""; ""Genes, Food, and Chronic Diseases""; ""Determinants of Food Intake""; ""Improving Food and Nutrition Policies""; ""Enhancing the Food Supply""; ""Education and Training"" ""Undergraduate Education""""Graduate Education""; ""Graduate Education Support""; ""Support""; ""Federal Government""; ""Industry""; ""Private, Nonprofit Organizations""; ""CREATING THE FUTURE""; ""1 Introduction ""; ""WHO WE ARE AND WHAT WE STUDY""; ""THEMES"";

""Theme 1: Nutrients and Biologically Active Food Constituents in Development, Cell Differentiation, Growth, Maturation, and...""; ""Theme 2: Genes, Food, and Chronic Diseases""; ""Theme 3: Determinants of Food Intake""; ""Theme 4: Improving Food and Nutrition Policies""; ""Theme 5: Enhancing the Food Supply"" ""Crosscutting Examples of Our Themes"" ""Understanding the Functions of Vitamin D""; ""Combating Atherosclerotic Heart Disease""; ""CONCLUDING REMARKS""; ""2 Accomplishments in the Nutrition and Food Sciences""; ""EXAMPLES OF ACCOMPLISHMENTS AND CHALLENGES""; ""Gene-Nutrient Interactions""; ""Iron""; ""Energy Balance and the Risks of Diabetes and Obesity""; ""Folate and Neural Tube Defects""; ""Oxidative Damage to DNA, Proteins, and Fats""; ""Improving the Food Supply""; ""Sensory Biology and the Development of New Foods""; ""Biotechnology""; ""Preventing Childhood Morbidity and Mortality"" ""Oral Rehydration Therapy"" ""Vitamin A""; ""New Concepts of Nutrient Requirements""; ""CONCLUDING REMARKS""; ""3 Understanding Genetic, Molecular, Cellular, and Physiological Processes""; ""ACCOMPLISHMENTS AND RELATED POSSIBILITIES""; ""Brown and Goldstein and Lipid Metabolism""; ""Retinoic Acid""; ""Vitamin D as Receptors and Metabolism""; ""Metabolism from Vitamin to Steroid Hormone""; ""Physiological Actions via Genomic and Nongenomic Pathways""; ""Neurotransmitters as Regulation and Action""; ""Influences on Eating Behaviors""; ""Excitatory and Inhibitory Receptor Systems in the Brain"" ""Iron Metabolism and Regulation"" ""Transferrin and the Transferrin Receptor""; ""Regulation of Iron Storage as Ferritin""; ""TECHNOLOGIES CREATING NEW OPPORTUNITIES FOR BASIC RESEARCH IN NUTRITION SCIENCE""; ""Genetics""; ""Manipulation of the Mammalian Genome""; ""Why transgenes are useful Transgenes have two key uses""; ""Approaches to Analysis of Multifactorial Traits""; ""Identification, Isolation, and Tracking of Specific Cell Types""; ""Monoclonal Antibodies""; ""Visualization""; ""Fluorescence-Activated Cell Sorting""; ""Cell and Tissue Culture Systems""; ""Immortalization of Cells"" ""Complex Culture Systems""

Sommario/riassunto

Thanks to increased knowledge about nutrition, many threats to human health have been curbed. But there is much more to be learned. This new volume identifies the most promising opportunities for further progress in basic and clinical research in the biological sciences, food science and technology, and public health. The committee identifies cross-cutting themes as frameworks for investigation and offers a history of nutrition and food science research with nine case studies of accomplishments. The core of the volume identifies research opportunities in areas likely to provide the biggest payoffs in enhancing individual and public health. The volume highlights the importance of technology and instrumentation and covers the spectrum from the effects of neurotransmitters on food selection to the impact of federal food programs on public health. The book also explores the training of nutrition and food scientists. This comprehensive resource will be indispensable to investigators, administrators, and funding decisionmakers in government and industry as well as faculty, students, and interested individuals.