



Yrjö H. Roos

Yrjö H. Roos, is the 2017 recipient of the International Food Engineering award for use of glass transitions and state diagrams in food engineering as fundamental tools for processing and stability control.

Roos is a professor of food technology at the University College Cork in Cork, Ireland and he held a Finland Distinguished Professor at the Technical Research Centre of Finland. He has made contributions to academic teaching and research, particularly in food materials science with emphasis on freezing and dehydration technologies. He is well known for his research and publications covering phase and state transitions in food materials, and the understanding of glass transitions and noncrystalline states of biological materials. His research has led to development of state diagrams and water relations in food materials for wide applications in biological materials engineering and technology. His studies have developed fundamental concepts to advance processing technologies and materials performance and stability control across food, pharmaceutical, and other industries. He has contributed to the understanding of crystallization phenomena and reaction kinetics in food materials while emphasizing the importance of their time dependent and nonequilibrium material characteristics.

Roos' significant contributions to further the understanding of glass transitions in food systems and its application in state diagrams has given food

engineers a visual tool to trace a product's stability. His contributions to food engineering area continued while he served in demanding leadership and administrative roles along with full time teaching responsibilities. He served in industry as well as academia and developed innovative food products and did pioneering research in freeze-drying.

Roos is the author or coauthor of seven books, 38 book chapters, and more than 400 refereed journal articles, conference proceeding papers, and other publications. He is listed as a sole inventor on one US patent.

Roos is the president of the International Symposium on the Properties of Water in Foods, a special interest group of the International Union of Food Science and Technology. He is also chair and founder of the Executive Group of European Academy of Food Engineering, a special interest group of the European Federation of Food Science and Technology and the European Federation of Chemical Engineers. He also maintains a professional membership with the Institute of Food Technologists. In 2015, Roos was inducted as an Institute of Food Technologists Fellow and elected as Fellow of the International Academy of Food Science and Technology in 2016. He received a Lifetime Achievement award from the International Association of Engineering and Food in 2015 as well as Applied Chemical Thermodynamics Award of Swiss Society for Thermal Analysis and Calorimetry in 2017.