Membrane processing is a filtration technique in which particles are separated from liquids by being forced through a porous material, or membrane. Applied to dairy products, the separation techniques allow valuable compounds, found in milk, to be isolated for use as ingredients in food processing. A comprehensive overview of membrane separation processes, this book explores various applications such as pressure driven processes, electrical field driven processes, and concentration driven processes, for the recovery of various dairy streams and ingredients. The topics covered place emphasis on new applications, including microfiltration, ultrafiltration, reverse osmosis, electrodialysis, and pervaporation. The text also presents in-depth knowledge of the mechanisms of each membrane separation process, as well as membrane types and the equipment used in these processes. Combining their educational backgrounds and substantial industrial experience in dairy ingredients processes, the authors address cutting-edge technologies that have been thoroughly researched and have great potential to be commercialized in the near future. The book will therefore be of interest to dairy industry professionals and will serve as a source of reference material for professors and students in food science and engineering.

ABOUT THE AUTHOR

Kang Hu holds a PhD degree in Chemical Engineering from McMaster University, Hamilton, Canada, with a focus on membrane separation. With more than 20 years of academia and industry experience in membrane technology, including membrane
fabrication and application, he is Senior Scientist at Land O’Lakes, St Paul, Minnesota, USA, where he continues to apply his expertise in dairy ingredient separation.

**James M. Dickson** holds a PhD degree from Virginia Polytechnic Institute and State University. He first studied membranes with the pioneers Drs Sourirajan and Matsuura more than 40 years ago and has worked in the study of membrane development, characterization, and application since then. After 30 years as Professor of Chemical Engineering, McMaster University, Hamilton, Ontario, Canada, studying membrane research and development, he recently retired as Professor Emeritus in this department.