Fredrick Vance is the Technical Director for Aearo Technologies LLC, a 3M company that designs, markets and manufactures E-A-R™ brand Thermal Acoustic Systems. He holds a B.S. in chemistry from Hope College and a Ph.D. in physical and inorganic chemistry from Northwestern University. His past research spanned the fields of photonics, catalysis, and water treatment. Since joining Aearo in 2013, he has led the development of acoustic treatment materials and systems for aircraft and commercial vehicles. He is an author on 6 issued U.S. patents and authored and presented numerous publications in peer reviewed journals, technical conferences, and trade magazines.