**Abstract:** Most of the graphene-based membranes are polymeric supported or free-standing, whose practical application is limited due to the lack of mechanical strength and thermal and chemical stability. To address this problem, we demonstrated a scalable fabrication of GO membranes on ceramic hollow fiber substrate and showed good PV dehydration of aqueous organic solution. Moreover, we demonstrated a novel bio-inspired strategy that utilizes the synergistic effect of a hydrophilic polymer and GO laminates to realize fast water-transport channels for constructing high-efficiency membrane. For gas separation, we proposed a novel type of membrane with fast and selective gas-transport channels of GO laminates enabled by polymer-GO hydrogen bonding. The as-prepared GO-based membrane showed excellent CO2 permeation performance and extraordinary operational stability.

**About the Speaker:** Dr. Wanqin Jin is a professor of Chemical Engineering at Nanjing Tech University, the Deputy-director of the State Key laboratory of Materials-oriented Chemical Engineering and the Chief-scientist of the National Basic Research Program of China (973 Program). His currently research focuses on the development of membrane materials, membrane processes and membrane reactors. He has published over 250 SCI tracked journal publications with over 7000 citations, and edited 5 books and had 32 authorized patents.