SPEECH INFORMATION (For Conference Program Book)	
Topic	Applications of Microbial Extracellular Vesicles: Bridging Gut Microbiota and Precision Health
Abstract	The composition and dynamics of the gut microbiota are intimately associated with host growth, digestion, and immune regulation, exerting a profound influence on human health. In recent years, global research efforts have increasingly focused on the microbiome's role in disease pathogenesis and therapy, establishing it as a central theme in modern biomedicine. Evaluating structural and functional alterations in the gut microbiota offers great potential for precision and personalized medicine. The gut ecosystem represents a highly interactive network between the host and microorganisms, where microbial communities adapt dynamically to environmental changes to maintain host homeostasis. Understanding the reciprocal regulation among microbial populations and the crosstalk between microbes and their host remains a key to decoding the microbiota–health relationship. Extracellular vesicles (EVs), nanosized bilayered vesicles released by both prokaryotic and eukaryotic cells, have emerged as critical mediators of intercellular and interspecies communication. These vesicles carry diverse bioactive molecules that can enter target cells and modulate gene expression, thereby serving as information carriers across biological kingdoms. Microbial EVs, in particular, facilitate communication between microbes and between microbes and the host, influencing gut microbiota composition and host physiology. Elucidating how microbial EVs modulate microbial networks and host health represents a novel and promising direction for advancing microbiome-based therapeutics and precision health applications.