

세미나 초록

성명	한종혁
소속	Emory School of Medicine and Georgia Institute of Technology
발표 주제	Deciphering and recapitulating tissue heterogeneity for personalized medicine
발표 내용	<p>Personalized medicine demands a multi-scale understanding of tissue heterogeneity across molecular, cellular, and patient-specific dimensions. Our studies integrate innovative in vitro organoid modeling and bioinformatics-based computational modeling to decipher the complex landscape of tissue variability.</p> <p>Our in vitro strategy utilizes cutting-edge biofabrication techniques, such as 3D bioprinting, to create organoid models with rationally controlled heterogeneity. Concurrently, our in silico approach leverages single-cell transcriptomics and machine learning/artificial intelligence algorithms to model and linking complex tissue architectures to tissue-level functions, including patient-to-patient variances.</p> <p>By integrating these complementary methods, we aim to bridge the gap between simplified in vitro systems and the complexity of in vivo tissues. Our research focuses on developing predictive frameworks that can translate molecular insights into personalized treatment strategies. This work has significant implications for drug discovery, disease modeling, and the advancement of precision medicine.</p>