28 Aug 11:30 - 12:50 18 mins Speaker Hall B

Organoids for patho-mechanistic study of newborn hepatobiliary diseases

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My research focusses on the translation of basic science and advanced technology for a better understanding of disease mechanisms and clinical applications for diseases affecting newborn babies including biliary atresia (BA). BA causes obstruction of bile flow, resulting in persistent jaundice and eventual liver failure in babies. I have pioneered the use of liver organoids and RNA sequencing technology in the patho-mechanism study of BA. Furthermore, I have also identified a novel BA diagnostic marker. Using transgenic and knockout approaches, mouse mutants of developmental disorders have been generated. Impact of various signaling pathways in the normal and abnormal development of the hepatobiliary development have been investigated in these mutants. In this talk, I will use our published and unpublished data to demonstrate using human liver tissue & IPSC -derived organoid culture for patho-mechanism investigation of gene regulatory network underlying normal duct development and abnormal bile duct development in BA.