

Date: 7/24/2008(Thu) 11:00am

Place: Seminar Room, A2F

Single Cell PCR with Fluidigm's Microfluidics

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The Fluidigm chip includes unique *integrated fluid circuit* (IFC) ,essential for developing practical applications. It enables complex and massively parallel bioprocesses, detection and quantification of trace targets.
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**1. Novel Role of Pluripotency Regulators
in the Early Embryo**

Dr. Mylene Yao (Stanford University)

Compared to the emerging human and mouse ESC gene networks that are becoming well understood, little is known about the dynamic gene network that directs reprogramming in the early embryo. Maternal transcripts and proteins that continue to be present in the early embryo may preclude the observation of early embryo phenotypes in conventional knockout mouse models. My laboratory has taken innovative approaches to establish human and mouse models, both in vitro and in vivo, to identify the genetic and physical determinants of optimal development. We have established a powerful method to dissect and define the dynamic gene regulatory network that directs reprogramming and development in the early mouse embryo. By combining specific gene knockdown with global gene expression profiles and semi-quantitative analysis at the single-embryo level, we have discovered pluripotency regulators that are critical for early mouse embryo development, and identified potential nodes in their networks. Our methods and findings will be presented and discussed.

2. Fluidigm's IFC(Integrated Fluidic Circuit) technology

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