Prof. Dr. Anming Meng
Professor of Developmental Biology

Dr Anming Meng's lab has focused on mechanisms controlling early embryonic development of vertebrates. Mainly using the zebrafish and the mouse as model systems, the lab has been studying cell fate determination during cleavage and blastula stages, germ layer induction and patterning, and dorsoventral and anteroposterior differentiation. Particular attention is paid to the role of maternal (oocyte-derived) factors in the above developmental processes.

In the past tens of years, this lab had revealed functions of several important regulators and signaling pathways for mesendoderm induction and dorsoventral patterning as well as left-right asymmetry development in zebrafish embryos. One important discovery is that a maternally expressed Huluwa, a novel transmembrane protein, activates b-catenin signaling for the embryonic organizer and body axis formation in the zebrafish and frog by promoting Axin degradation, which solves a long-standing question in the field of developmental biology. Recently, Anming Meng’s lab disclosed the clock-like function of nuclear pore complex maturation for activation of zygotic genome activation in zebrafish embryos. Besides, his lab discovered for the first time an indispensable role of the second polar body in setting up the initial cell fate asymmetry during pre-implantation and in regulating post-implantation development in mouse embryos.

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