



OIST

OKINAWA INSTITUTE OF SCIENCE AND TECHNOLOGY GRADUATE UNIVERSITY  
沖縄科学技術大学院大学

OIST PRESIDENTIAL LECTURE

# Molecular Architecture of Lineage Specification and Tissue Organization in the Early Mouse Embryo

Thu, **Feb. 6th**  
**13:30 - 14:30**  
Center Bldg. **C209**

After a vertebrate embryo implants into the lining of the uterus, gastrulation occurs – an embryonic phase where cells migrate to form three distinct germ layers, determining the type of tissue the cells will form. Current studies have shown that within each germ layer, the specific location of each cell ultimately decides its fate. However, in-depth knowledge of the molecular regulation underpinning this process, which will be instrumental in future embryonic and stem cell research, has yet to be undertaken. In this lecture, Professor Naihe Jing will present his work in this field: a high-resolution, digitized map of the messenger RNA – a molecule produced by DNA which is then used to synthesize proteins – that is found in cells in different positions in the germ layers over time, from before gastrulation occurs to the late stages of gastrulation. With this information, scientists can gain a better understanding of how and when cells transition from stem cells into specialized cells, what molecular processes drive this development and how the overall embryonic body plan is determined.



## Dr. Naihe Jing

*Professor, Principal Investigator, Shanghai Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences*

Professor Jing received his PhD in biochemistry from the Shanghai Institute of Biochemistry of the Chinese Academy of Sciences, then went on to work at RIKEN and Max Planck before returning to the Shanghai Institute of Biochemistry as a full professor. He is the associate editor of the *Journal of Molecular Cell Biology* and *BMC Developmental Biology*, and his research interests focus on understanding the molecular mechanisms of early embryonic development and pluripotent stem cell neural differentiation.

✉ [contact@oist.jp](mailto:contact@oist.jp)