

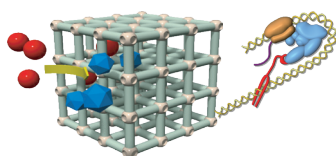
Mission Statement

- Create new **integrated disciplines of cell-material sciences** based on the cross-disciplinary fields of **chemistry**, **physics** and **cell biology**.
- Become a **global hub** of career development for scientists.

Two Key Concepts

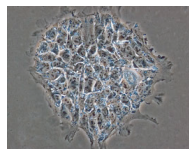
Meso-Control

Nano / Meso-Materials



Stem Cells

Cell Biology



Management

Quick Decision-Making

- Red tape-free, top-down approach employed

English as Official Language

- No language barrier in meetings, emails etc.
- English-speaking admin staff assigned (Over 40%)

Interaction among PI Groups

- Common-use labs and open offices introduced

Incentives for PIs

- Flexible merit-based salary system

International Recruitment

- All posts to be advertised across the world
- Start-up funds for 2 years
- Kyoto iCeMS Fellows
- Funds to invite overseas researchers as young independent PIs (Principal Investigators)

Female Scientists Encouraged

- Special support for child-care
- Replacement posts for maternity leave
- University support center of female scientists

Top-notch Scientists in Society

- Development of social literacy for scientists
- Science communication/integrity program
- Mentor development program

Research Areas and Objectives

New meso-science and innovation

1. Meso-Control of **Stem Cell Systems**
2. Meso-Control of **Functional Architectures**



Foundation | Cross-disciplinary Fields at Global Hub

The Institute for Integrated Cell-Material Sciences (iCeMS) was established at Kyoto University on October 1, 2007 under the World Premier International Research Center (WPI) Initiative by the Ministry of Education, Culture, Sports, Science, and Technology (MEXT). The iCeMS is an international research institute **pioneering "new integrated disciplines of cell-material sciences"**.

The iCeMS aims to **become a global hub** for attracting world-class researchers and to provide a model for other international research institutes to be founded in Japan.



Organization | To be "Globally Visible, Truly International"

The iCeMS consists of 18 PIs (Principal Investigators), about 120 researchers and 30 administrative staffers (as of November 1, 2008).

Prof. **Norio Nakatsuji** (former director of the Institute for Frontier Medical Sciences at Kyoto University) leads the iCeMS as its founding director. The iCeMS will globally develop its research activities in cooperation with the following research institutes:

- Max-Planck Institute of Molecular Cell Biology and Genetics, Dresden
- Wellcome Trust Centre for Stem Cell Research, University of Cambridge
- RIKEN Center for Developmental Biology (CDB)
- National Centre for Biological Sciences (NCBS), Bangalore, India
- California NanoSystems Institute (CNSI), UCLA
- Bionanotechnology IRC, University of Oxford
- Membrane Center, Purdue University

Gifu University Prof. **Makoto Kiso**'s group joins the iCeMS as a satellite center.



Research | Contributing to Human Wellness in 3 areas

The iCeMS aims at creating "Meso-Control Science" through the integration of **physics**, **chemistry**, and **cell biology**, establishing the science and technology of meso-control, based on the atomic and molecular interactions occurring in the scale of 5-100 nm, as the cells have designed themselves during evolution.

Namely, the research conducted at the iCeMS is built around the two key concepts: **MESO-CONTROL** and **STEM CELLS**. More specifically, we intend to establish the science for **1) Meso-Control of Stem Cell Systems** and **2) Meso-Control of Functional Architectures**.

Through technological innovations based on meso-control science, we will directly contribute to the human wellness in three main areas: A) environmentally-friendly chemistry by meso-control, B) detoxication and drug synthesis in the body, and C) regenerative medicine by controlling stem cells with smart materials.

Achievement | iPS Cell Breakthrough - CiRA Launched

iCeMS Professor **Shinya Yamanaka** succeeded in generating induced pluripotent stem (iPS) cells from human fibroblasts in November 2007. In order to further advance iPS cell research, the Center for iPS Cell Research and Application (CiRA) was established under the auspices of the iCeMS in as early as January 2008, and Director **Norio Nakatsuji** appointed Prof. **Yamanaka** as director of the CiRA.