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# The 92<sup>nd</sup> iCeMS SEMINAR

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**Fri 14 Oct 2011**  
**16:00-17:30**

## **3D Protein/Metal NP Hybrid Superstructures and Applications in Cancer Research**

Lecturer: **Prof. Dr. Hiroshi Matsui**  
The City University of New York- Hunter College

Venue: 2nd floor Seminar Room (#A207)  
iCeMS Complex 1, Kyoto University

Here, we present three types of large-scale ( $\mu\text{m}^3 \sim \text{mm}^3$ ) biomimetic 2D and 3D assemblies using nanoscale collagen proteins as building blocks. Biosensor chips for detecting cancer cells will also be discussed. Recently, we improved the protocol to detect cancer cells in urine samples. Finally, the aggressive breast cancer cells could be distinguished from less aggressive ones by measuring impedance values of the samples, opening the possibility that circulating tumor cells (CTC), cancer stem cell (CSC), or metastatic cancer cells may be detected by this technique.

**Contact:** iCeMS Kitagawa Lab at [kitagawa-g@icems.kyoto-u.ac.jp](mailto:kitagawa-g@icems.kyoto-u.ac.jp)  
**Hosted by:** iCeMS (Institute for Integrated Cell-Material Sciences), Kyoto University  
**Co-hosted by:** Center for Frontier Medicine, Global COE Program, Kyoto University

