

Title:

“Towards Organisms-level Systems and Synthetic Biology.”

Abstract:

The logic of biological networks is difficult to elucidate without (1) comprehensive identification of network structure, (2) prediction and validation based on quantitative measurement and perturbation of network behavior, and (3) design and implementation of artificial networks of identified structure and observed dynamics.

Mammalian circadian clock system is such a complex and dynamic system consisting of complicatedly integrated regulatory loops and displaying the various dynamic behaviors including i) endogenous oscillation with about 24-hour period, ii) entrainment to the external environmental changes (temperature and light cycle), and iii) temperature compensation over the wide range of temperature.

I will discuss the current and past studies on a mammalian circadian clock as an example of molecule-to-cell-level systems biology, and also discuss the challenges and opportunities towards the organism-level systems biology.

Date:

**14 Jan 2015
(Wednesday)**

Time:

12:00 PM to 1:00 PM

Venue:

**Conf. 4D, Level 4
Duke-NUS Grad Med School
8 College Road, S169857**

(Opposite Singapore General Hospital, Block 6/7)

Host:

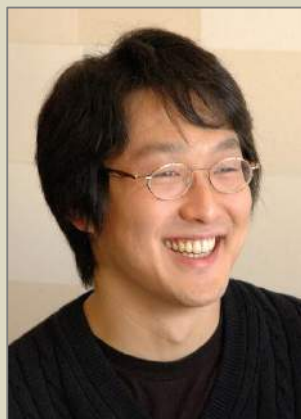
David Virshup

Professor & Director
Program in Cancer & Stem Cell Biology
Duke-NUS Graduate medical School Singapore

“No registration is required.”

Any enquiry, please contact:
Jamie Liew (Tel: 6516 6954)

Speaker:



Hiroki R. Ueda

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Systems Pharmacology,
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University of Tokyo
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Quantitative Biology Center, RIKEN

Biography:

Dr. Hiroki R. Ueda received his M.D. from the Faculty of Medicine of the University of Tokyo in 2000, and received his Ph.D. from the University Of Tokyo, Graduate School of Medicine in March 2004. He was appointed team leader of Laboratory for Systems Biology in 2003, and Leader of the Functional Genomics Unit at the CDB in 2004. He was promoted to be a project leader at the Laboratory for System Biology under CDB's Center Director's Strategic Program from September, 2009 – September, 2014. He was also appointed as a manager of Functional Genomics Unit at the CDB from October, 2004 - March, 2013, and a head of laboratory for synthetic biology at RIKEN Quantitative Biology Center (QBiC) from April, 2011. He became a professor of Graduate School of Medicine and Faculty of Medicine of the University of Tokyo from October, 2013.