Quantitative evaluation of in-vivo function of drug transporters and metabolizing enzymes at therapeutic doses from microdose clinical study in humans based on in-vitro measurements of metabolism, transport and binding using PBPK modeling.

WHEN: Thursday, March 19th, 10–11 am
WHERE: Duke North, Room 2001
SPEAKER: Yuichi Sugiyama Ph.D.
Head of Sugiyama Laboratory, RIKEN Innovation Center, RIKEN (The Institute of Physical and Chemical Research), Japan
ORGANIZER: Tal Burt, M.D.
Chair, Duke Microdosing Study Group, Assistant Professor of Psychiatry, Department of Psychiatry and Behavioral Sciences

Yuichi Sugiyama, Ph.D.
Yuichi Sugiyama started working as the Head of Sugiyama Laboratory, RIKEN Innovation Center, RIKEN Research Cluster for Innovation, Yokohama, Japan since April 1, 2012. He had been the Professor, Department of Molecular Pharmacokinetics at the University of Tokyo since 1991, retired from the University of Tokyo in March, 2012 and moved to RIKEN.

His work is internationally recognized by many awards, including AAPS Distinguished Pharmaceutical Scientist Award, 2003, FIP Hoest Madsen Medal in 2009, “Medal with Purple Ribbon” given by Government in 2010, B.B.Brodie Award from ASPET in 2012, R.T. Williams Distinguished Scientific Achievement Award (ISSX) in 2013 and Rawls-Palmer Progress in Medicine Award from ASCPT in 2014. Dr. Sugiyama was listed as a top (#1) scientist by ISI in 2007 for the number of citations he received in the preceding 10 years in the field of “Pharmacology and Toxicology”.

In new drug development, binding affinities to the target molecule (related to pharmacodynamics), rates of metabolism and membrane permeabilities (related to pharmacokinetics) will be studied by in-vitro experiments. However, prediction of human drug response from animal and in-vitro experiments is far from optimal, with most of drug candidates dropping out in human development. RIKEN, Japan’s Institute of Physical and Chemical Research, has established Sugiyama Laboratory to promote the construction of an integrated support system for efficient drug discovery and development.