



An Overview of Big Data Research Programs in Japan

Etsuya Shibayama

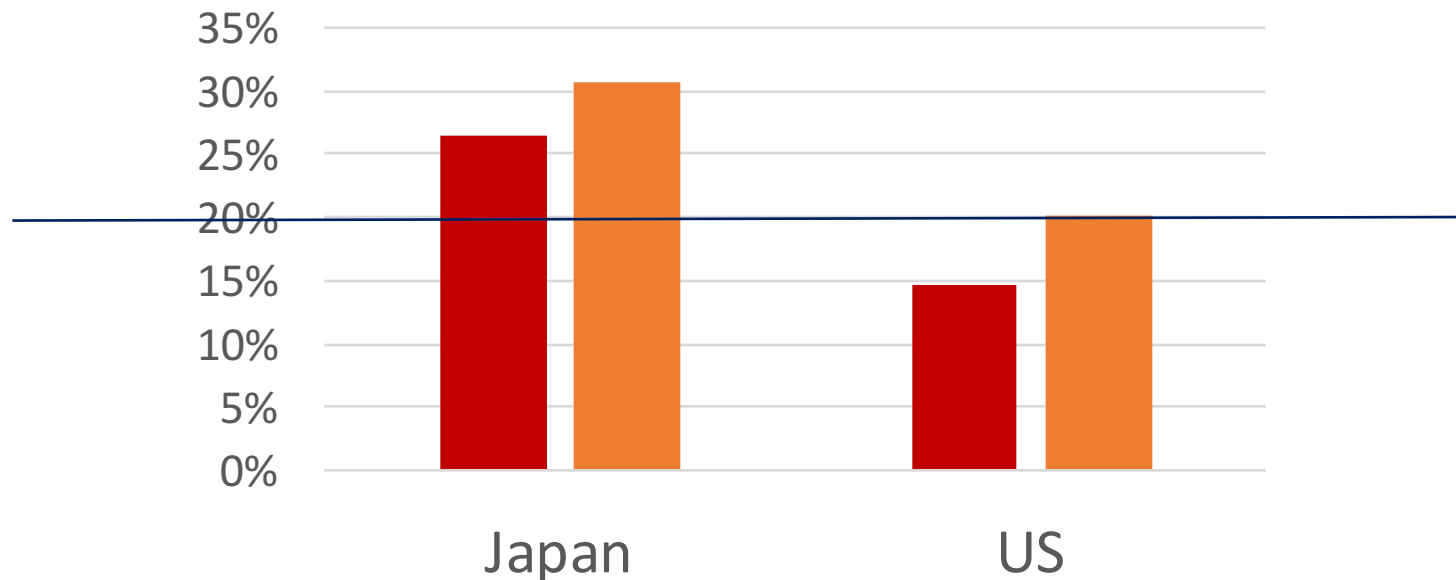
The University of Tokyo (UTokyo),
Japan Science and Technology
Agency (JST)

Challenge Super Aged Society

- Japan is in the 1st place, and is still aging

% of population aged over 65

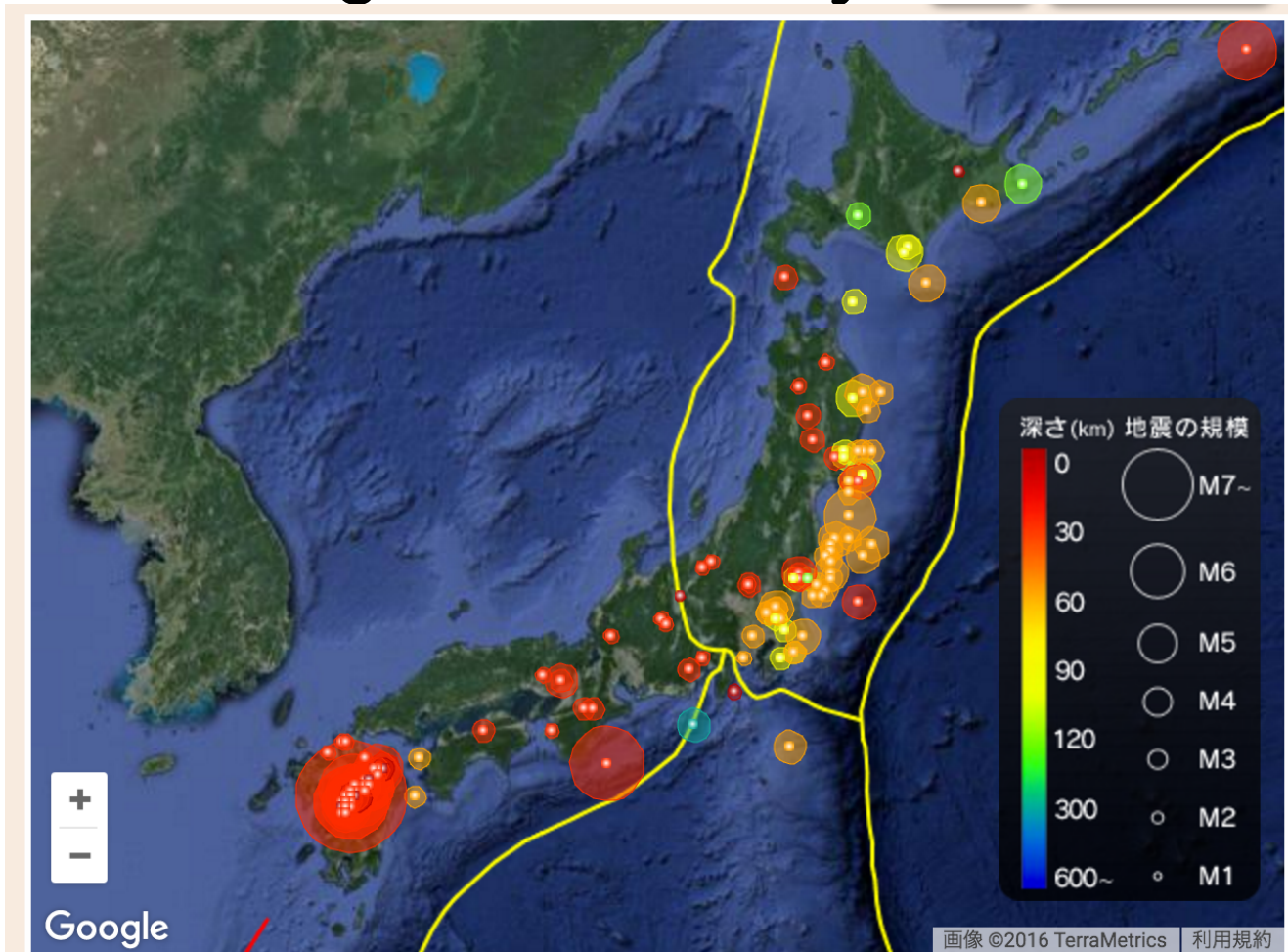
■ Year 2015 ■ Year 2030



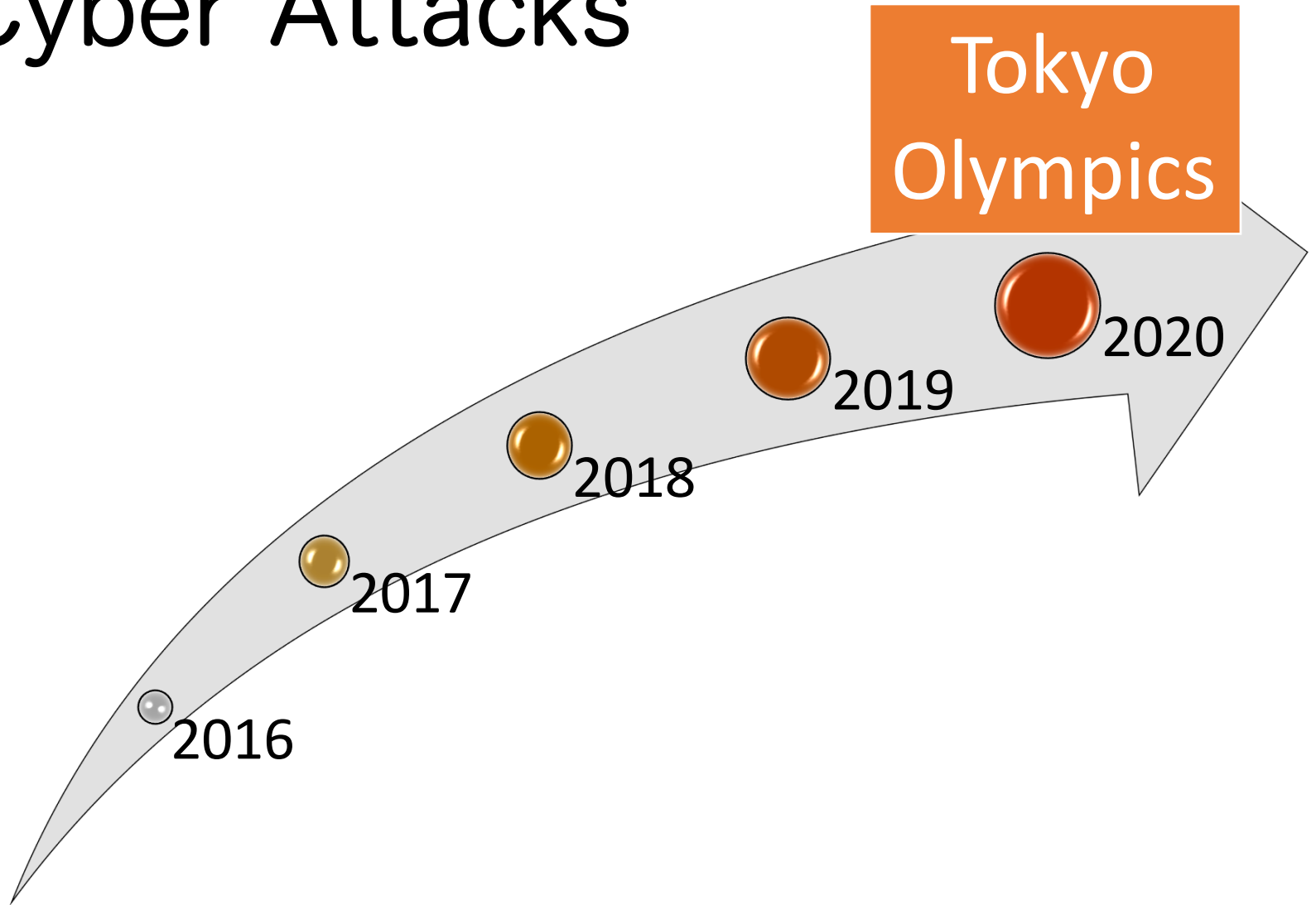
Challenge

Natural Disaster

- Japan is a high risk country



Challenge Cyber Attacks



CREST/PRESTO: strategic research programs of JST

Research Area 1: Big Data Application Technologies

- 9 CREST projects
- More application specific
- Collaboration of CS/IS/Math and target applications
- Own data is required



Research Area 2: Big Data Core Technologies

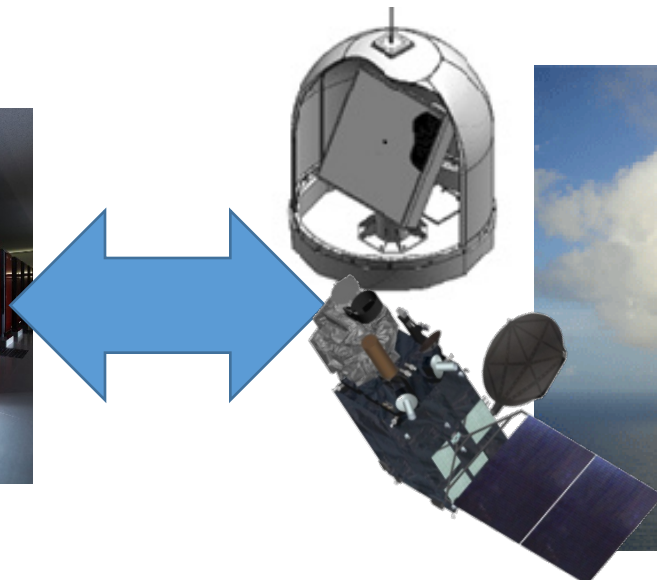
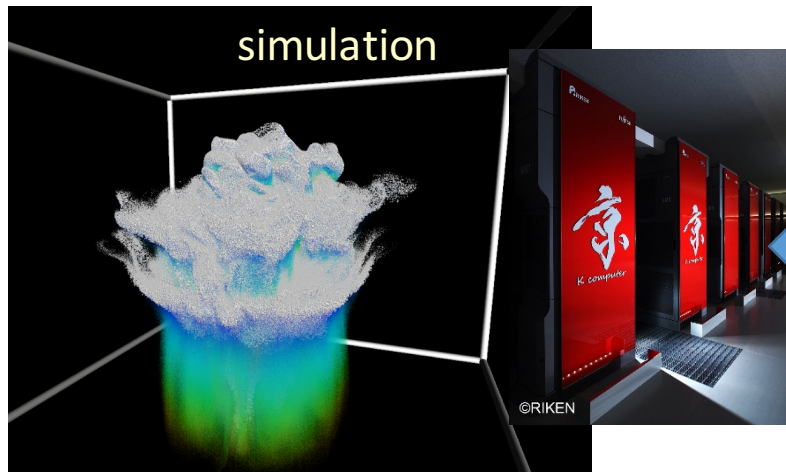
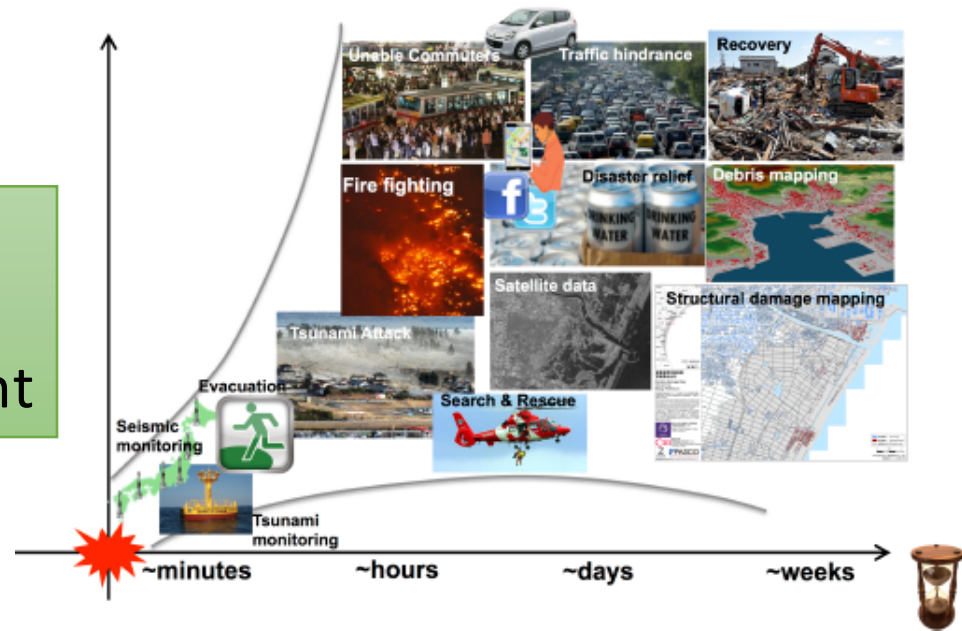
- 11 CREST and 17 PRESTO projects
- Applicable to multiple application domains
- Integration of various sorts of data



Big Data Application Technologies

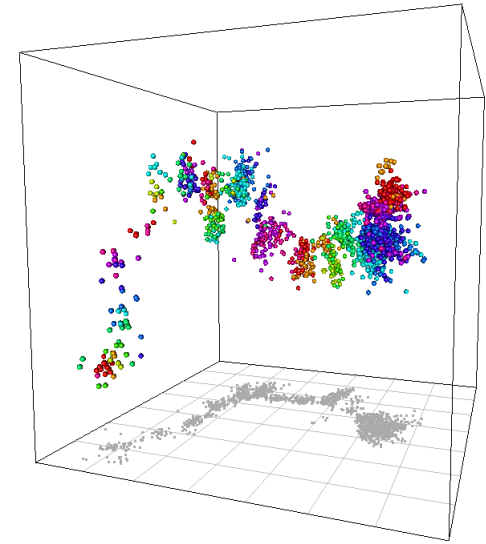
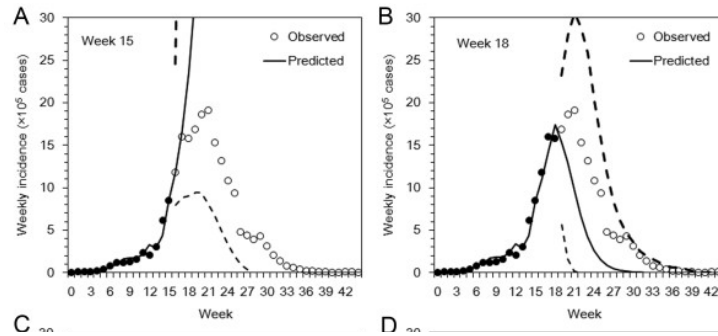
Disaster
Reduction
Management

Weather Prediction
with BD assimilation

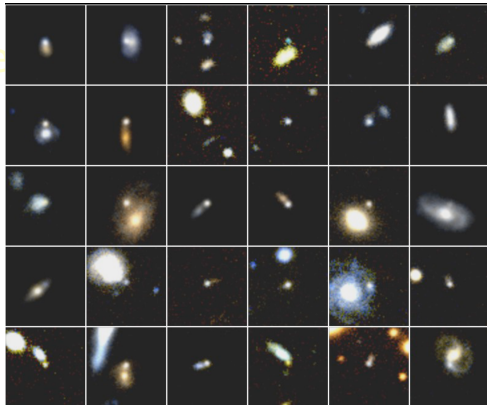


Big Data Application Technologies

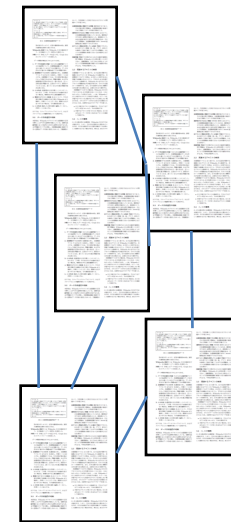
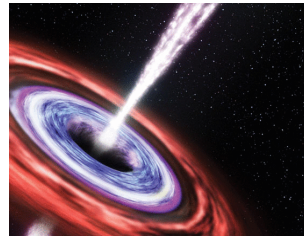
Pandemics



Statistical Computational Cosmology



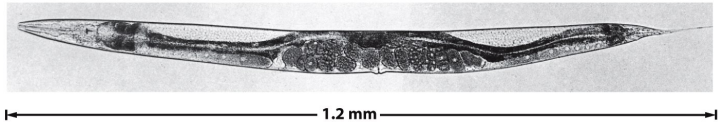
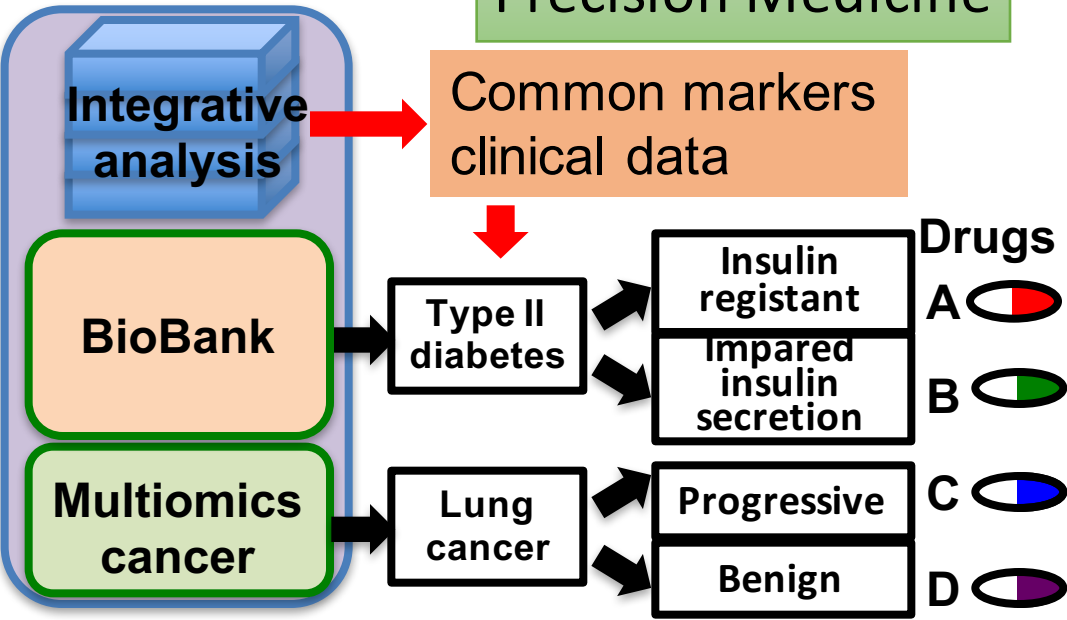
By Nozomu Tominaga (Tominaga, Morokuma, MT et al. 2015, ATel #7565)



Document Analysis

Precision Medicine

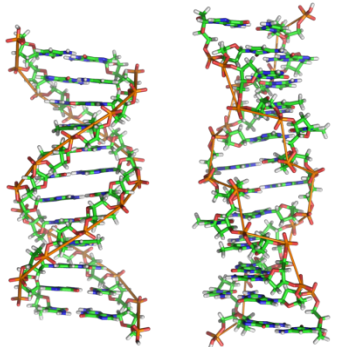
Animal Development



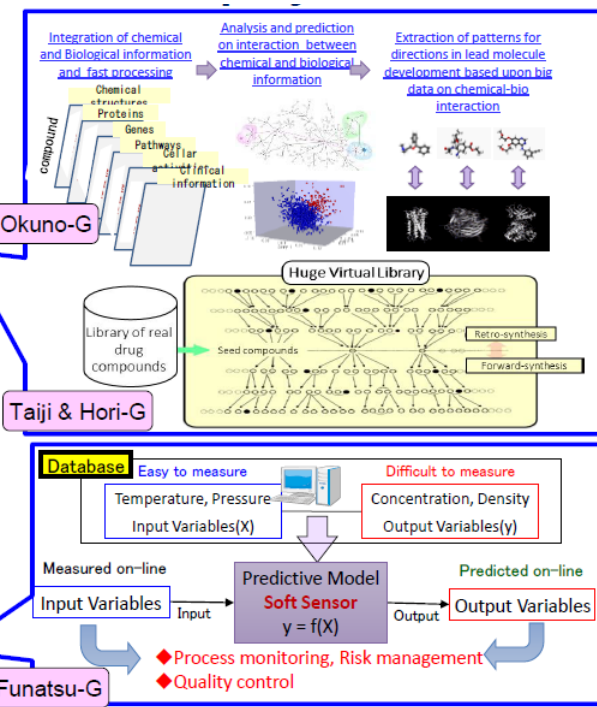
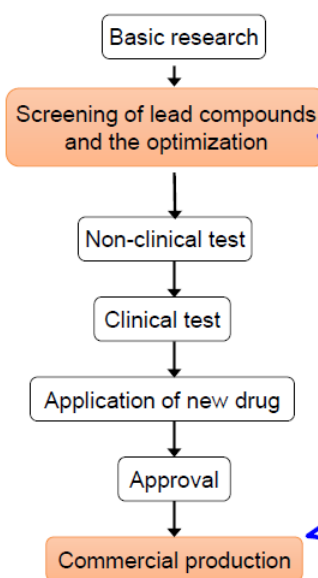
Pharmaceutical Development



AgriBigData

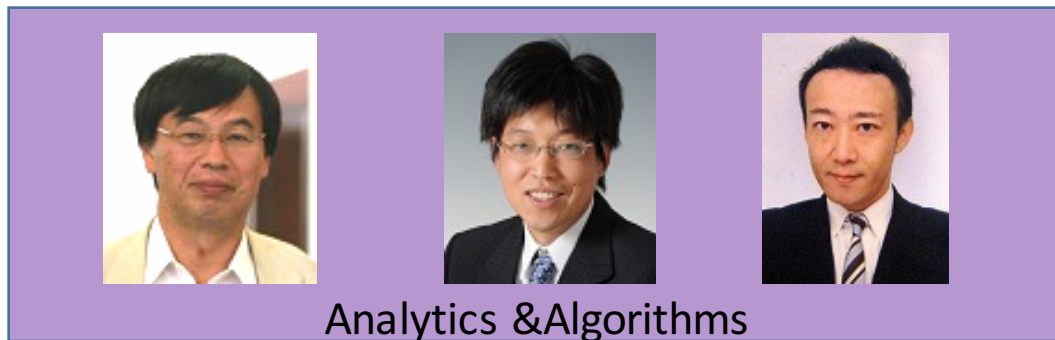


Flow of development of Pharmaceuticals

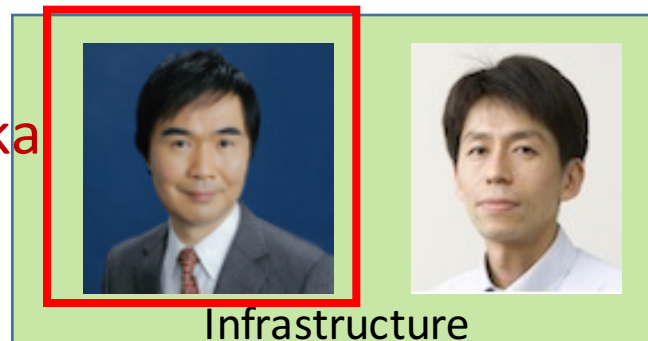


Big Data Core Technologies

Hayato Yamana



Satoshi
Matsuoka



ERATO: another strategic research program of JST



Kwarabayashi
Large Graph Project
2012-2018



Kawahara Project
2015-2021

Advanced Integrated Intelligence Platform Project

- AI, Big Data, IoT, and Cyber Security
- A new research center @ RIKEN from last week



- New research area(s) @ JST (TBA)

JST-NSF Big Data Joint Workshop/Symposium

- Closed Workshop on May 11 @ Akihabara
- Open Symposium on May 12 @ UTokyo





Thank you

etsuya@ecc.u-tokyo.ac.jp

CREST: http://www.jst.go.jp/kisoken/crest/en/research_areas/

PRESTO: http://www.jst.go.jp/kisoken/presto/en/research_areas/



Medical & Health Case DB

- National Clinical Database (NCD)
 - ◆ 1.2M surgical operations/year
- National Data Base (NDB)
 - ◆ About 1B receipts/year of National Health Insurance