

# Bioscience Updates

Jason Haga

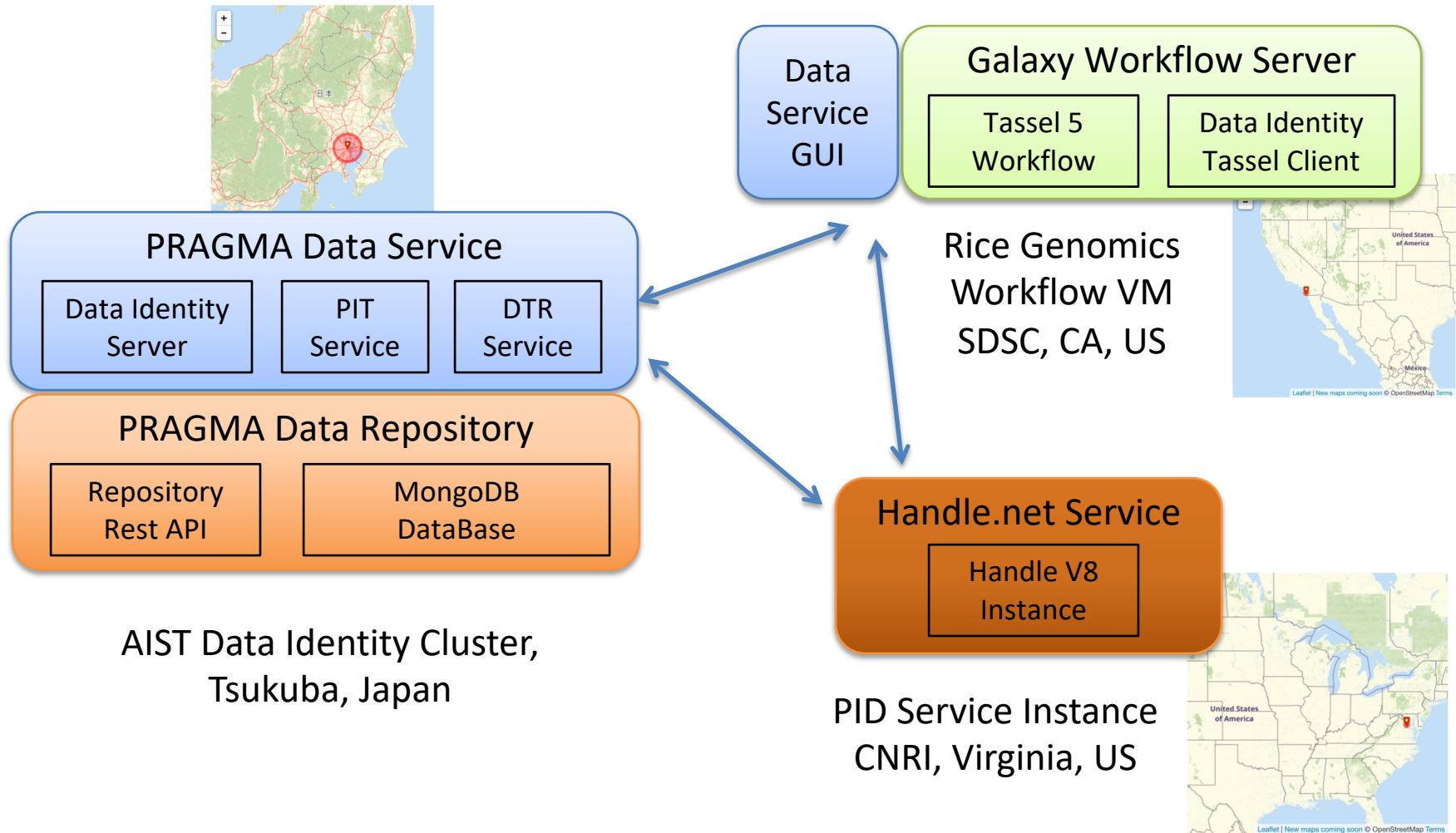
PRAGMA 35, Oct 5, 2018

# Bioscience Activities

- Computational genomics VM
- PRAGMA Data Identity Service
  - Rice genomics analysis
  - Moving to RaPID test-bed at Indiana University
- Visualization for bioscience

# PRAGMA Data Identity Service

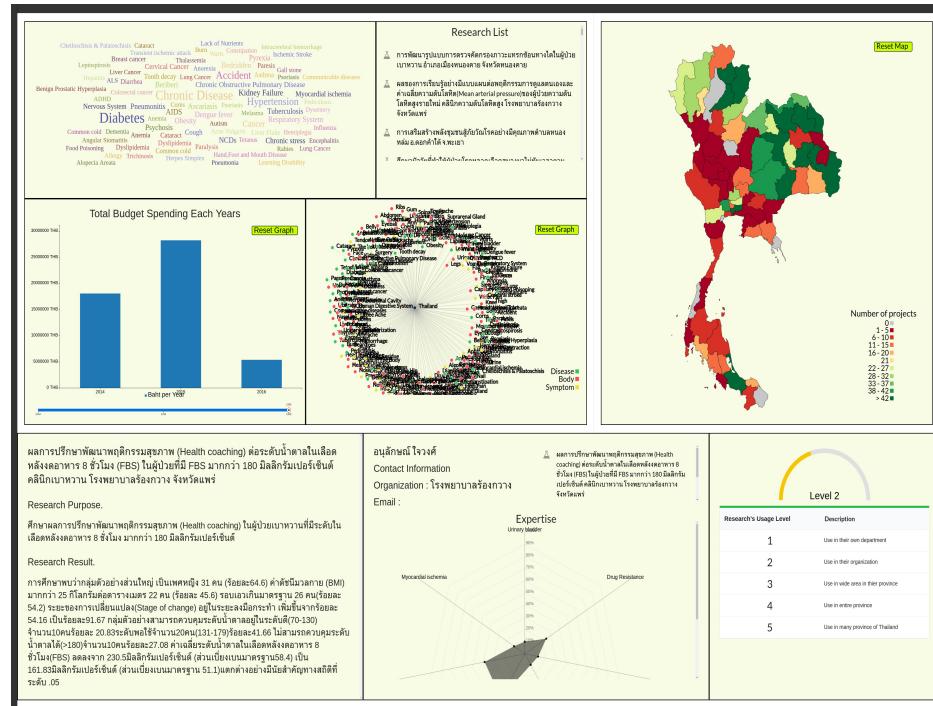
Quan (Gabriel) Zhou, Venice Juanillas, Ramil Mauleon, Jason Haga, Beth Plale  
*Indiana University, IRRI, AIST*



# MedThaiSAGE

Jason H. Haga, Jarernsri Mitrpanont, Jirayu Roungsuriyaviboon, Thada Sathapornwatanakul, Wudhichart Sawangphol, Dylan Kobayashi  
*AIST, Mahidol University, Univ. of Hawaii*

- Goal: Develop a large-scale visualization application for medical research project data (routine to research)
  - Traditional visualizations in a single application
  - Interactive linking between data
  - InCIT2017 Best Paper Award



# Biosciences WG

- Ongoing discussion with USM
  - Brain science data (fMRI, EEG, EMG, etc) at university hospital
  - Visualization environment: molecular screening for natural products
- Ongoing discussion with Universitas YARSI
  - Visualization-rich decision support system for TB
- Looking for other potential points of collaboration
  - Lack of consistent participation over past several meetings
  - Positioned to take advantage of emerging opportunities

# Biosciences WG – Day 1

- 20 people attended
  - Brain tract images/cerebral vascular disease (vis)
  - Sepsis (AI)
  - Obesity intervention (vis for public health)
  - Dengue fever (vis for public health)
  - Drug discovery (vis)
  - RNase (vis)
  - Monitoring human physical/mental condition – EEG data (vis for public health)
  - Liver disease classification (AI)
  - TB tracking (vis for public health)
  - Drug discovery and cancer detection (AI)
  - Psychotropics classification (AI)
  - TB monitoring medicine and immunization (vis for public health)
- Material optimization (AI)
- Urban planning

# Biosciences WG – Day 2

- Two themes
  - Data visualization/immersive analytics
  - AI
- Discussed some needs for resources for AI
- Potential VR prototype for brain tract images
- Identify times for researcher/student exchange