SSBD: utilizing OMERO for developing an open database of microscopy images and quantitative data

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SSBD database

- A open database of image/quantitative data
  http://ssbd.qbic.riken.jp (Since Sep. 2013)

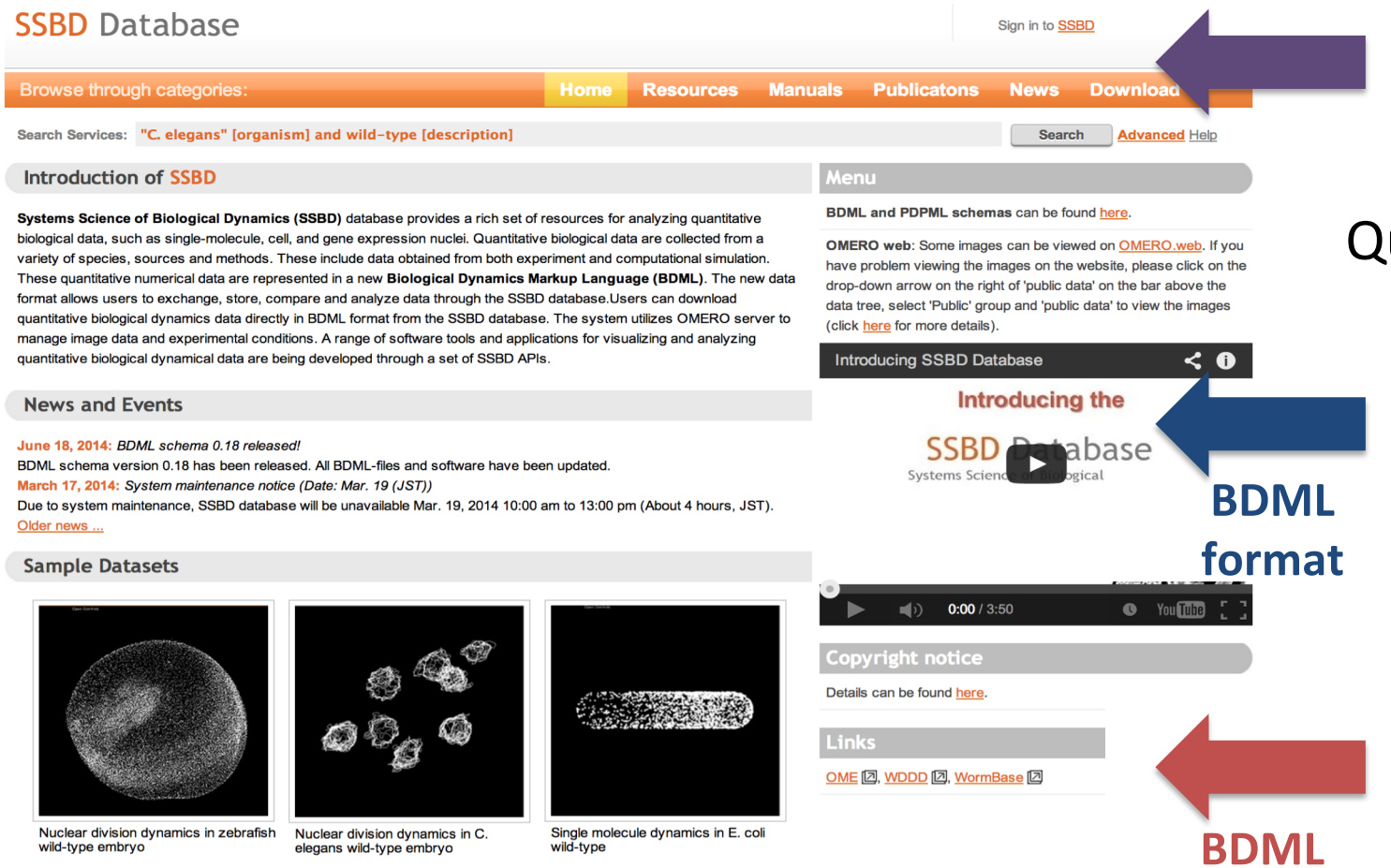
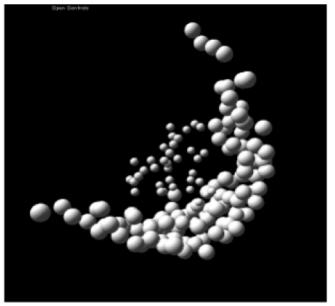
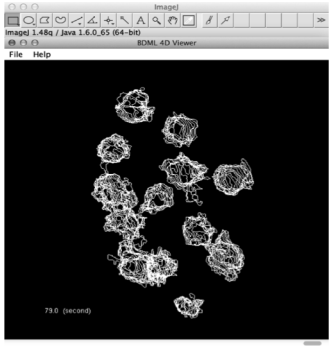


Image data

Quantitative data



Software tool



BDML format

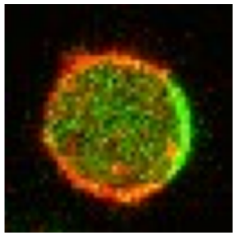
BDML compatible

Tohsato *et al*. (2016) *Bioinformatics*

Examples of images stored in SSBD

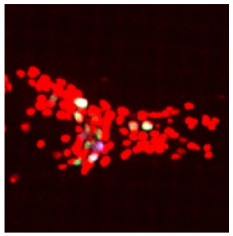
We collect microscopy images that have been published in peer-reviewed journal under authors' permission.

Dictyostelium cell



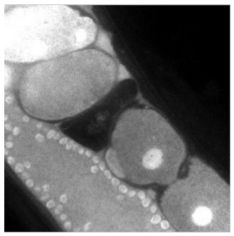
(Watabe et al. 2015)

C. elegans neuronal cell



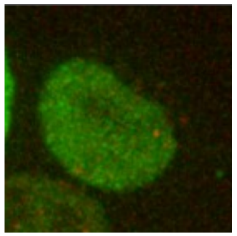
(Toyoshima et al. 2016)

C. elegans oocyte



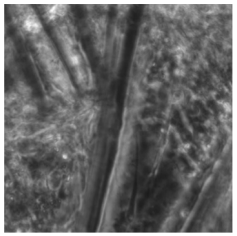
(Takayama & Onami 2016)

Mouse ES cell



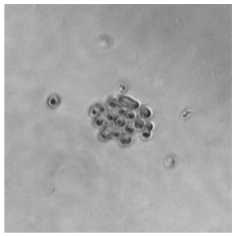
(Ochiai et al. 2015)

Mouse iPS cell



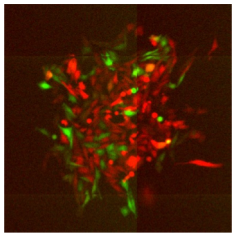
(Tanaka & Fujita 2015)

Mouse cultured cell



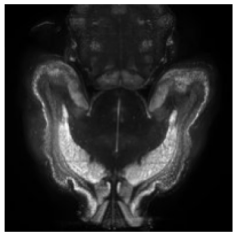
(Yonemura 2014)

Hamster cultured cell



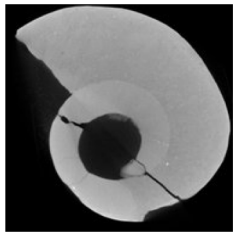
(Matsuda et al. 2015)

Mouse



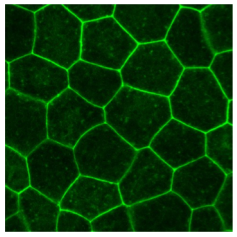
(Susaki et al. 2014)

D. cf. damesi



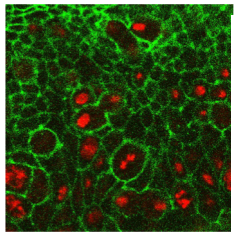
(Inoue & Kondo 2016)

X. laevis



(Inomata et al. 2013)

D. melanogaster

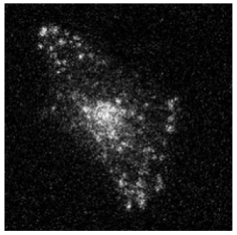


(Kondo & Hayashi 20

Rat

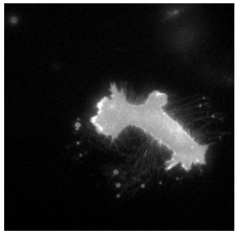
(Aoki et al. 2013)

Dog



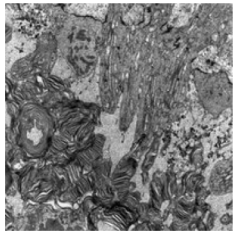
(Takai et al. 2015)

Human

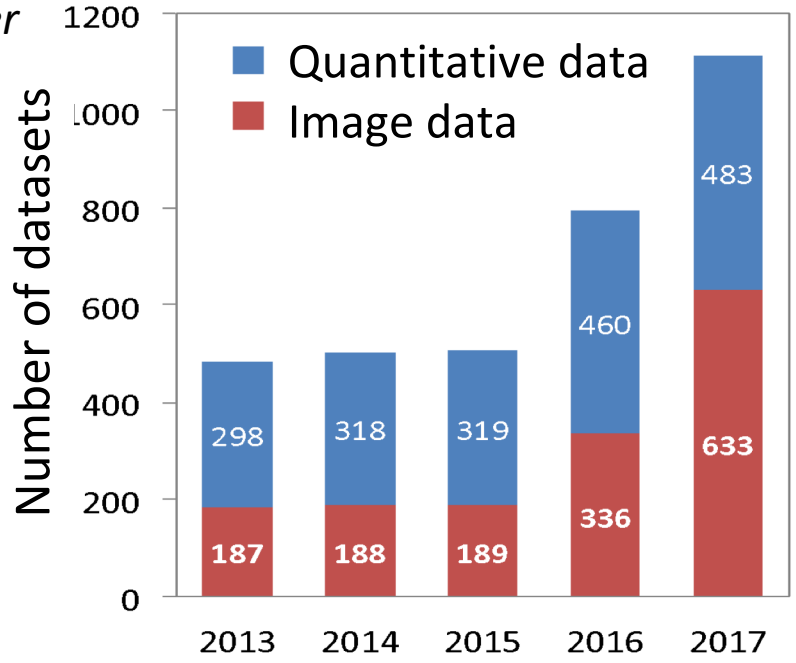


(Kunida et al. 2012)

Human



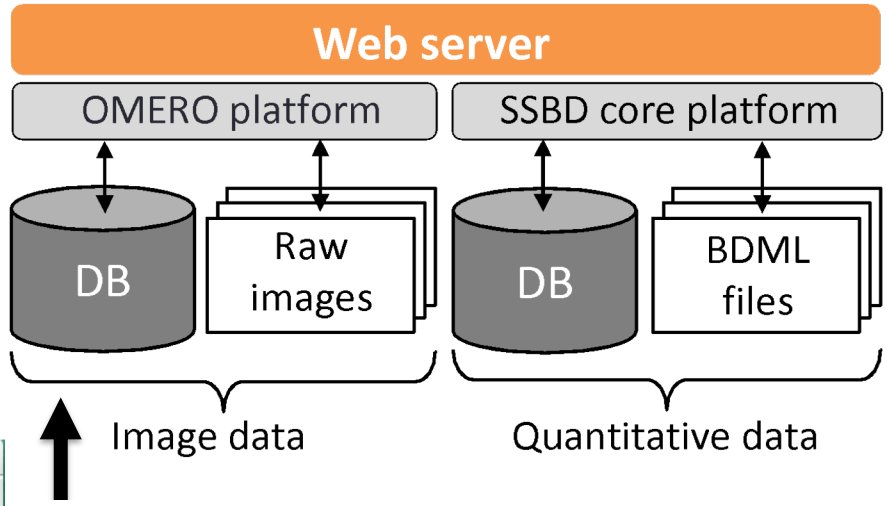
(Shirai et al. 2016)



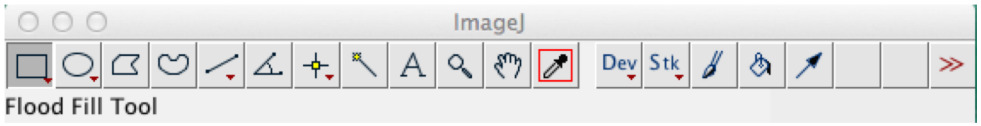
ImageJ connection service

- Developing a session ID providing service as an OMERO/Django app.
- Sharing an ImageJ plugin (OMERO insight-ij) modified to request a connection from ImageJ to SSBD by the session ID.

SSBD internal view



http://ssbd.qbic.riken.jp/image/publicKey/



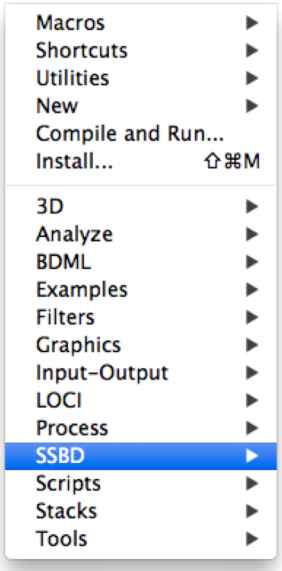


Image search service

- Creating key-value metadata for images.
- Developing an image search service as an OMERO/Django app.
- Arrowing public user accession.

http://ssbd.qbic.riken.jp/image/search/

We would like to develop a more integrated service …