

NOTES ON SHOOLA



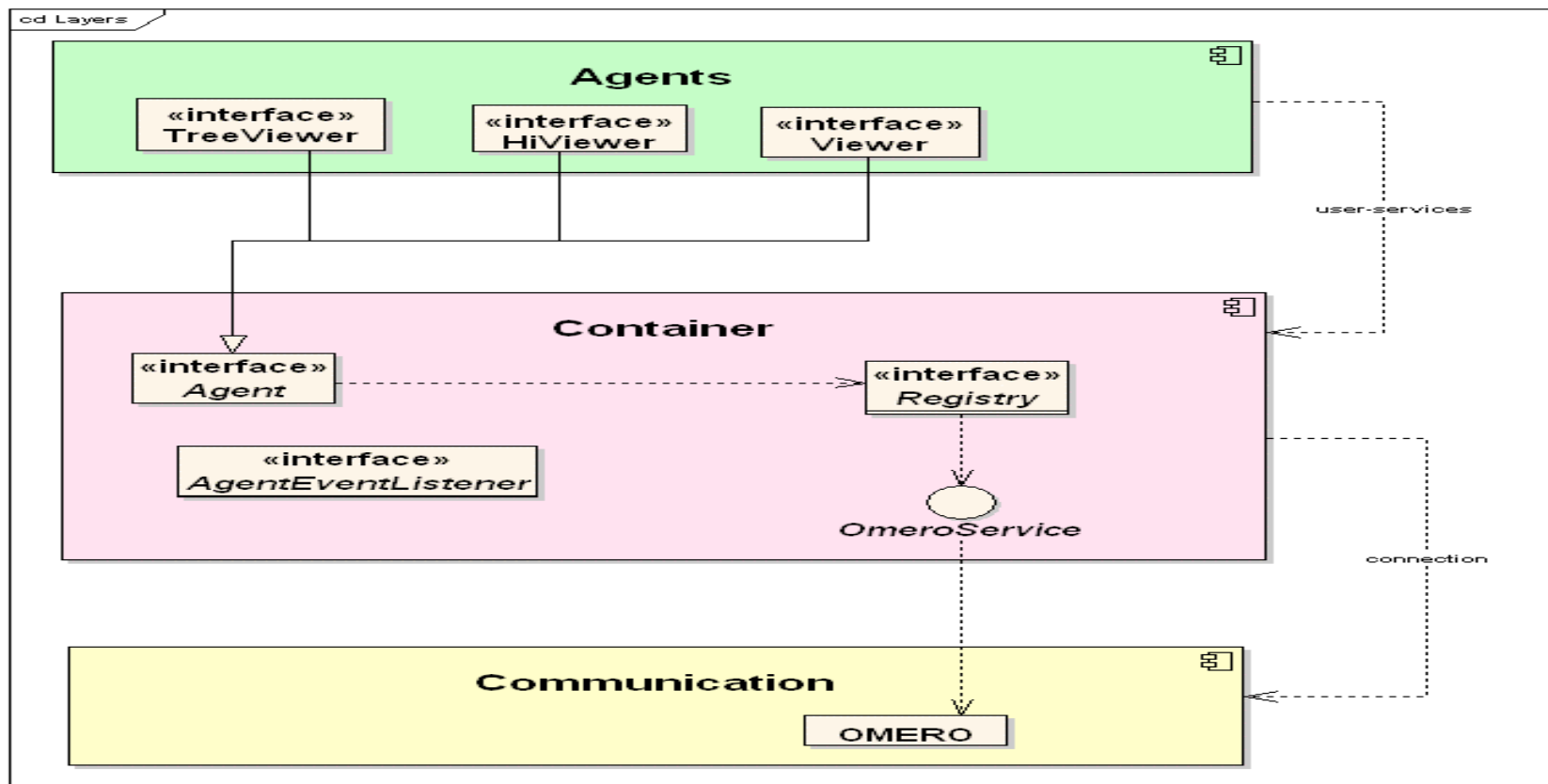
Dundee Team
The University of Dundee

1 Architecture Overview

2 Status

3 Future directions

1 ARCHITECTURE OVERVIEW



Threading View

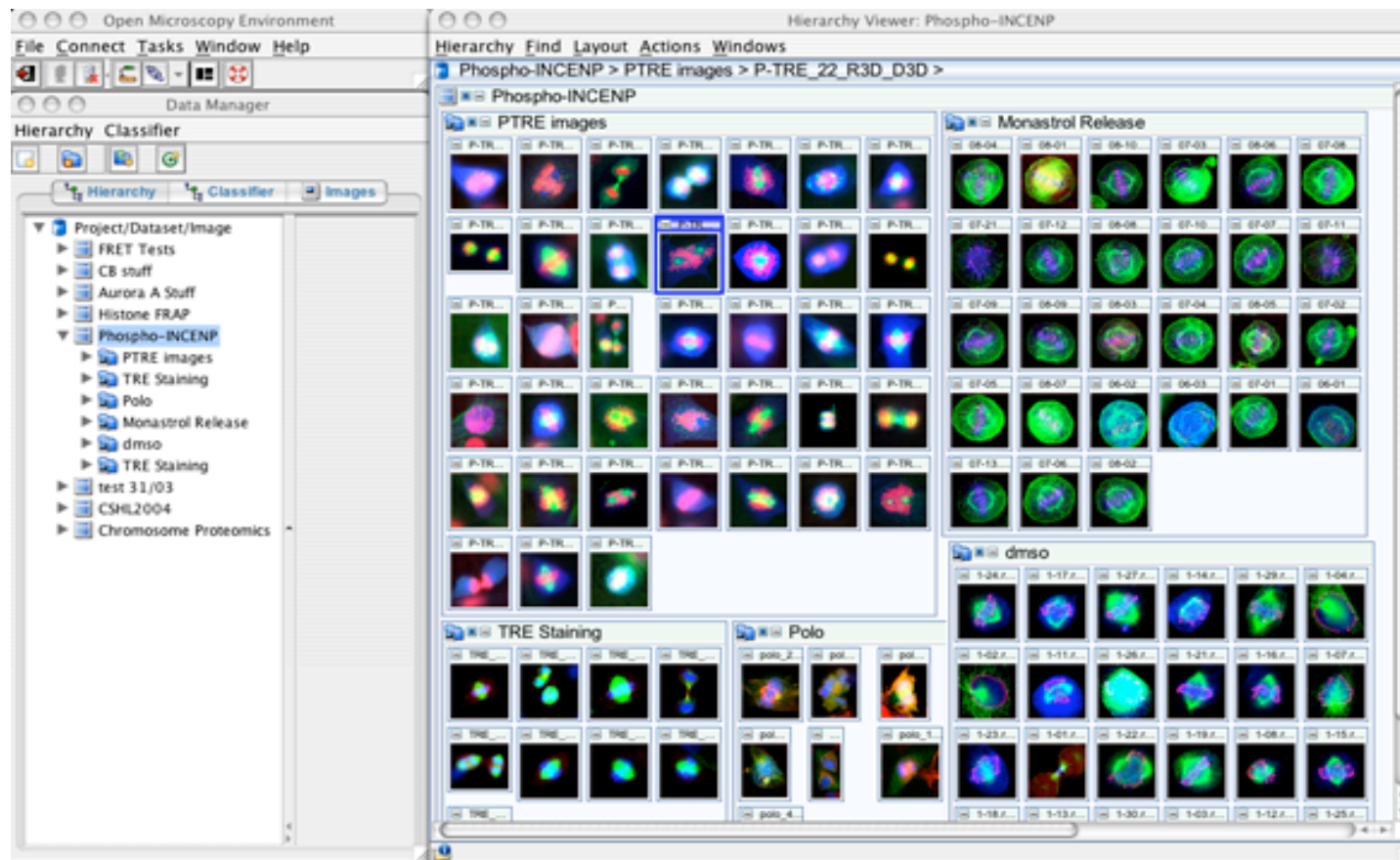
- ❑ Agents run within the Swing event-dispatcher.
- ❑ Container takes care of multi-threading long running call to the server.
- ❑ Call outcome notification happens within the Swing event-dispatcher thread.

Deployment View

- ❑ A single jar file. Its manifest links all required libraries.
- ❑ Deployed on a desktop/workstation with 1 GHz processor, 521MB RAM, 100Mb network link and a JRE 1.4
- ❑ Ant-based build system.

Shoola 2.5 – Omero 2

- Purpose: See the OMERO server running in a “real environment”.
- Read through OMERO, Write through OME-Java.
- No longer developed.
- Did it get better from a user's perspective?...



Browsing 2000 images: 6mins w/ OME-Java vs 30sec w/ OMERO

Shoola 2.5 to Shoola 3 (or Shoomero?)

- ❑ Client talking to OMERO 3ONLY.
- ❑ Read/Write through OMERO => No OME-Java dependency.
- ❑ Adapting communication layer and agents to handle the returned data objects.
- ❑ Rendering happening server-side and no longer client-side.

IMPORTANT NOTE: The architecture stays the SAME.

Container-Communication modifications

- Communication: 80-90 % done, bug fixing and java doc.
- Rendering Engine removal: 0% done.
- OME-Java dependency: 40% done.

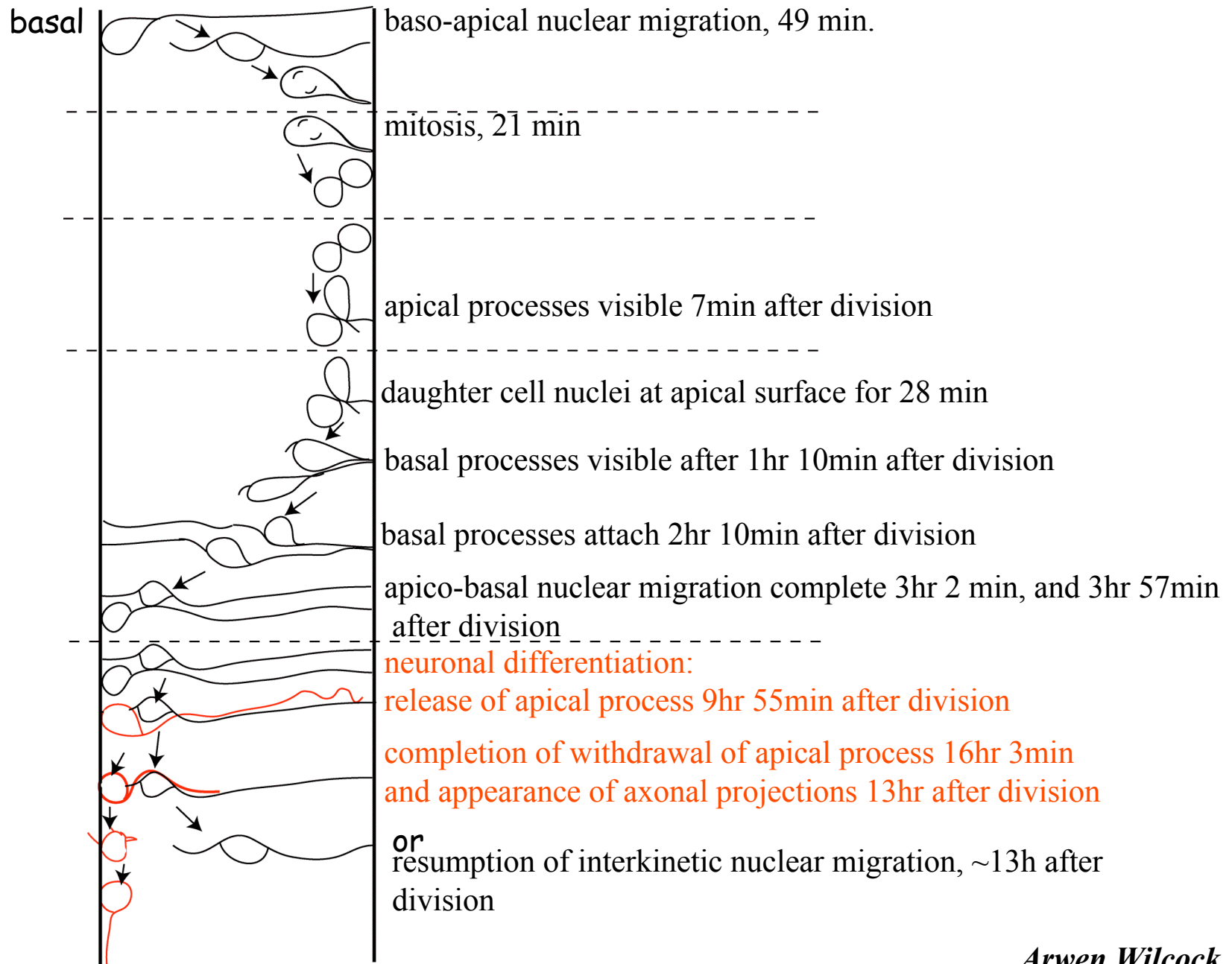
Agents modifications *(talking to OMERO 3)*

- ❑ TreeViewer, HiViewer:
 - An image hierarchy (P/D/I, CG/C/I, S/P/W/I) is turned into a generic tree whose leaves are images and internal nodes are image containers.
 - Allows to manipulate the data i.e. annotate, classify, etc.
 - Asynchronous data retrieval.
 - To come: Drag and Drop facility.

- ❑ Viewer, Renderer:
 - Asynchronous data retrieval.
 - Multi-viewers.
 - Status: Partially done, available before summer.

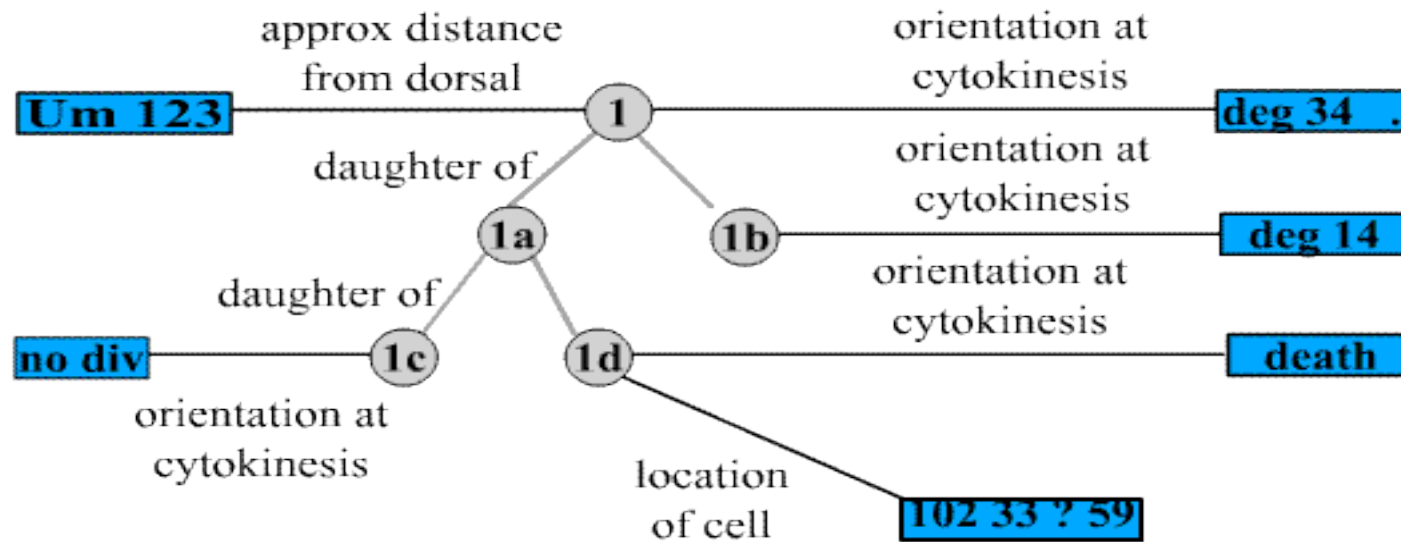
Real life example

Insert movie



Arwen Wilcock

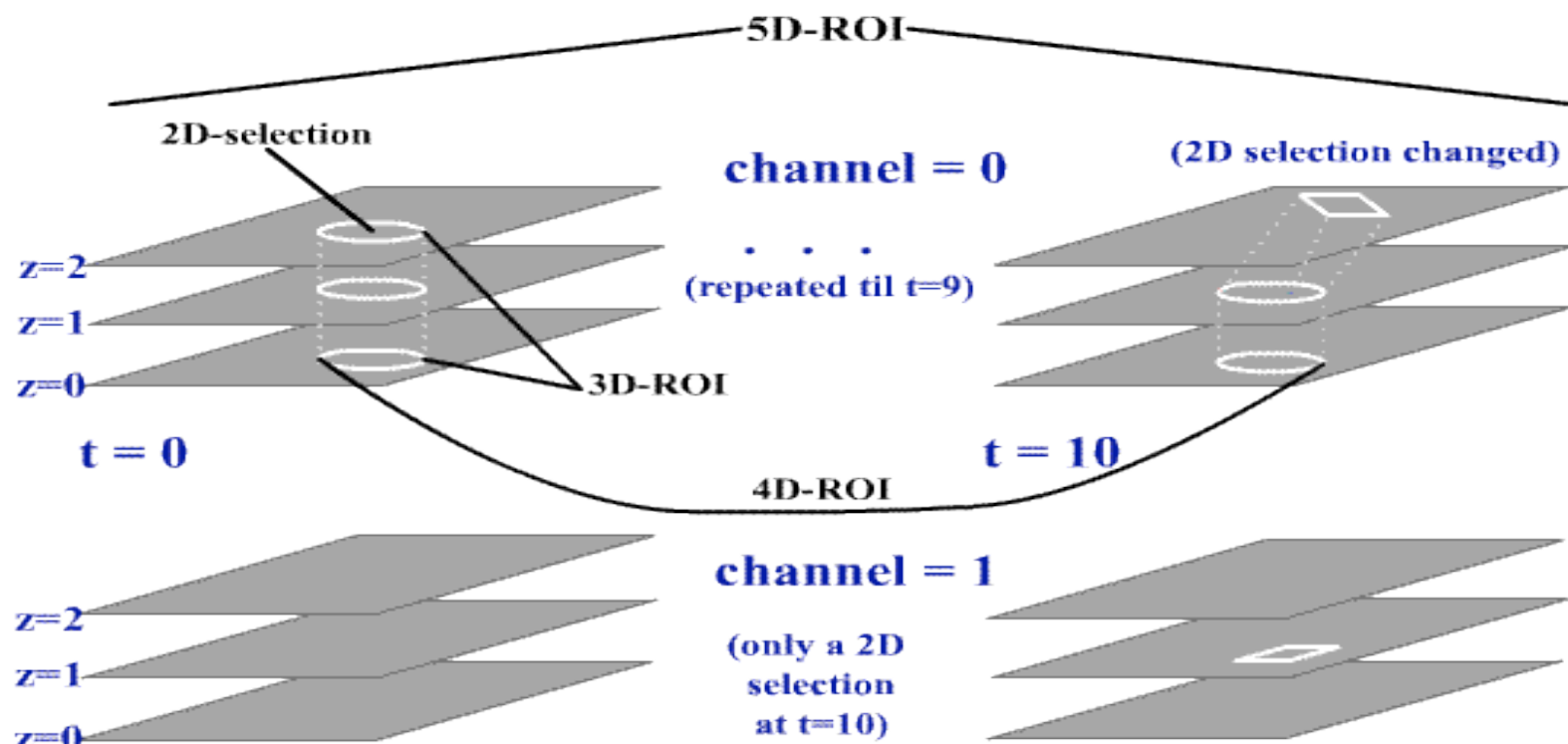
3 FUTURE DIRECTIONS



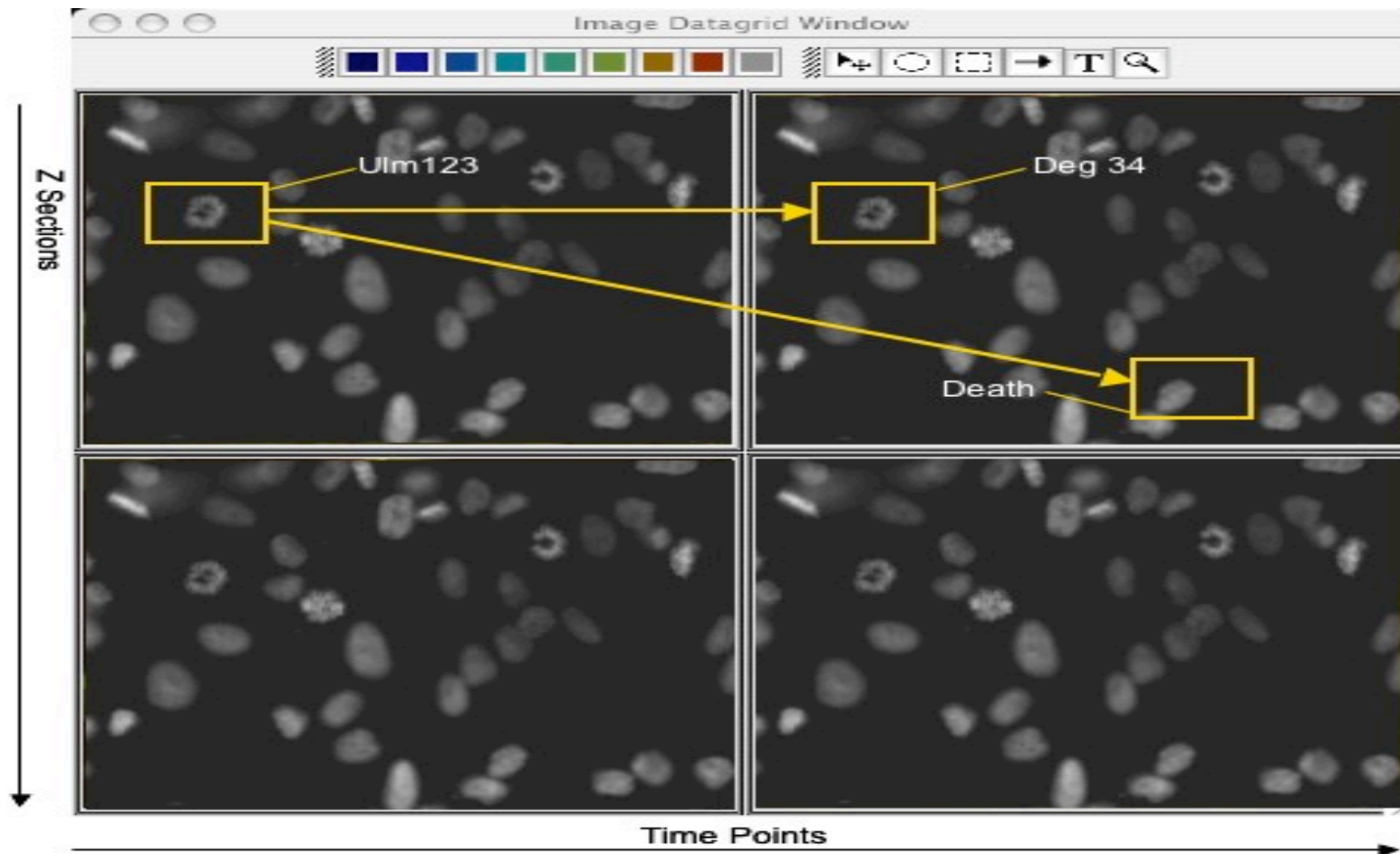
○ cell

■ value

5D-ROIs

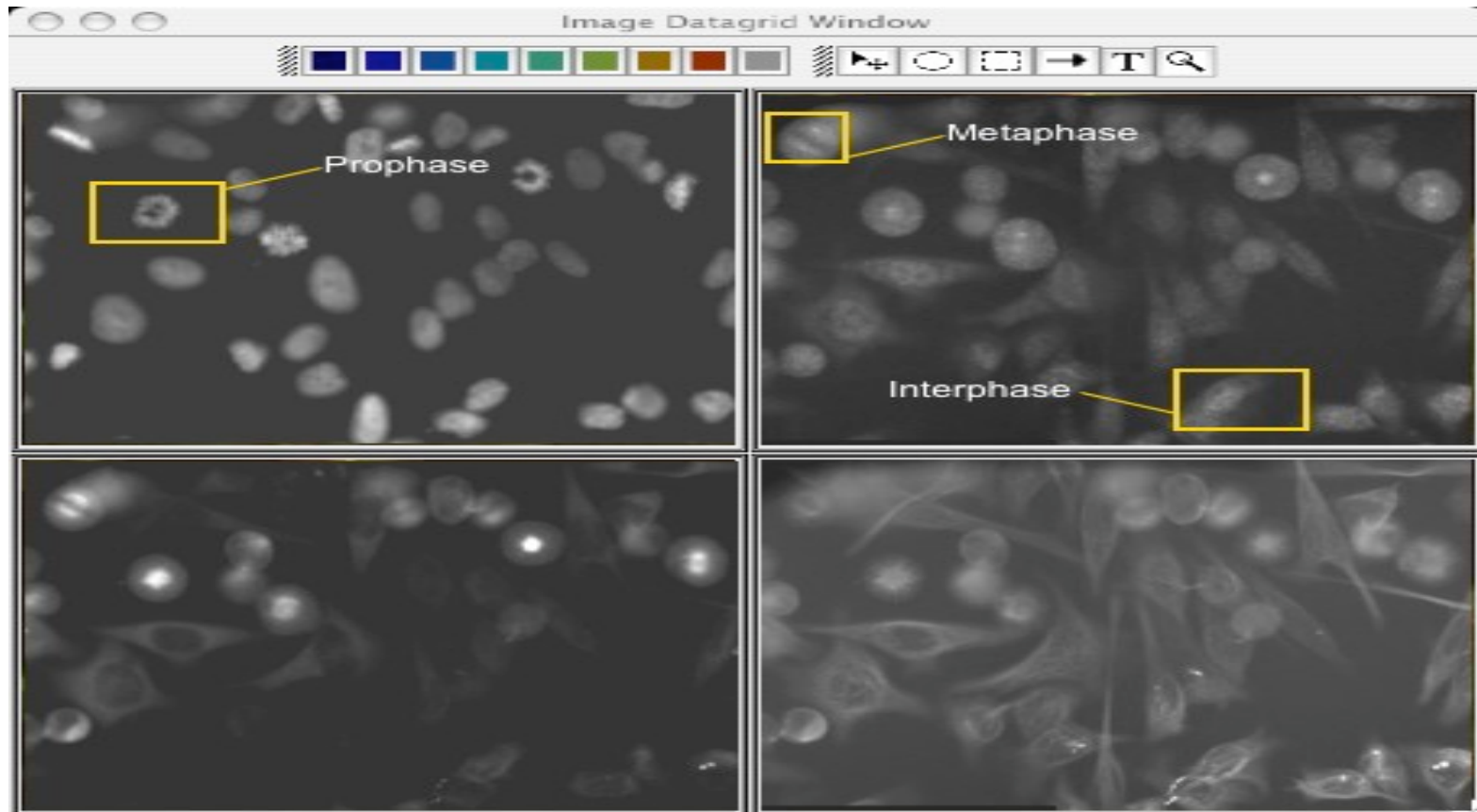


3 FUTURE DIRECTIONS



Annotation and lineage of 2D-selections across time.

3 FUTURE DIRECTIONS



ROI classification, 2D-plane at different channels

ROIs What For?

- To mark areas for annotation, not only textual
- To run analyses e.g. basic statistics computation on given areas
=> Need of interactive analysis.
- To visualize the results of spot tracking.
- To link region of an image across time.
- To classify region of an image e.g. anaphase, prophase etc.
- Others...

Code Reuse

- ❑ Multi-threading infrastructure and Data Services Views can be migrated to generic proxies.

- ❑ Integrating MIT work.
 - External analysis tools.
 - Third-party client platform: Eclipse approach.