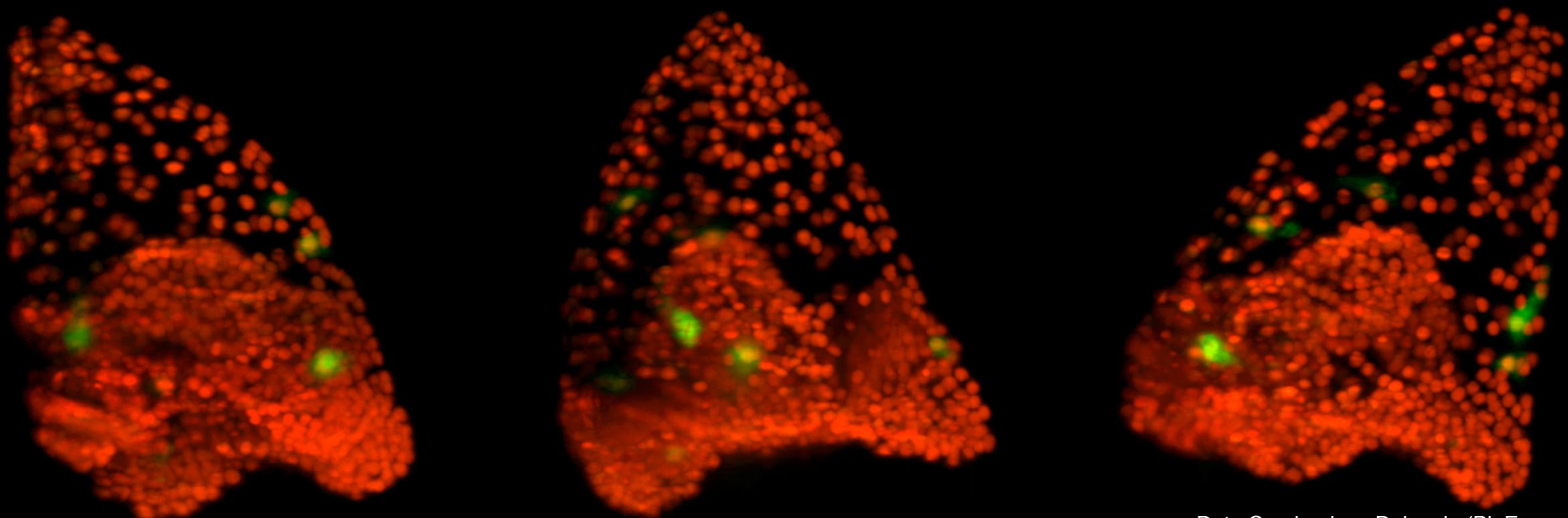


BioEmergences workflow for the reconstruction of cell lineages from 3D+time microscopy images

Nadine Peyriéras, Thierry Savy, Mark Hammons

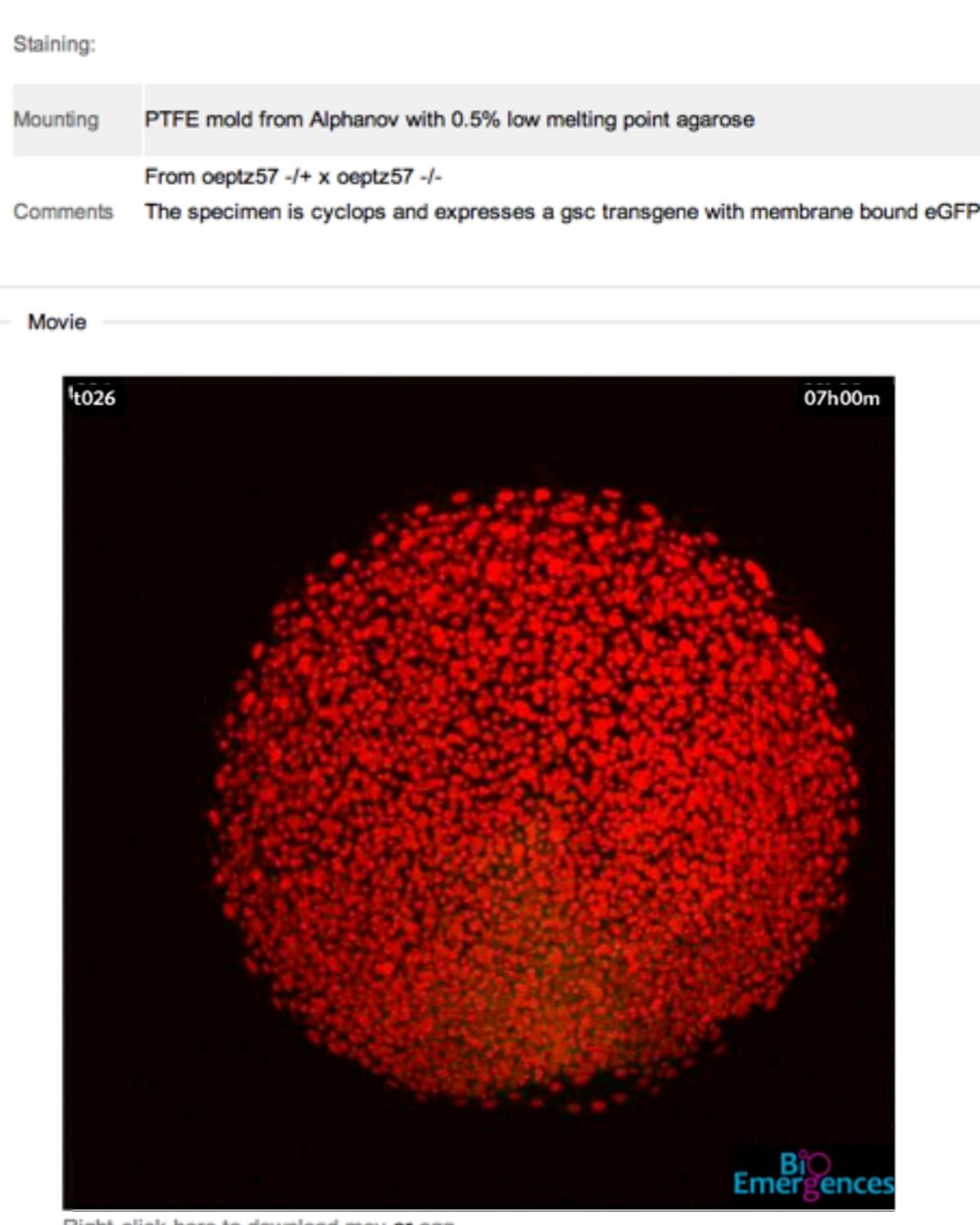
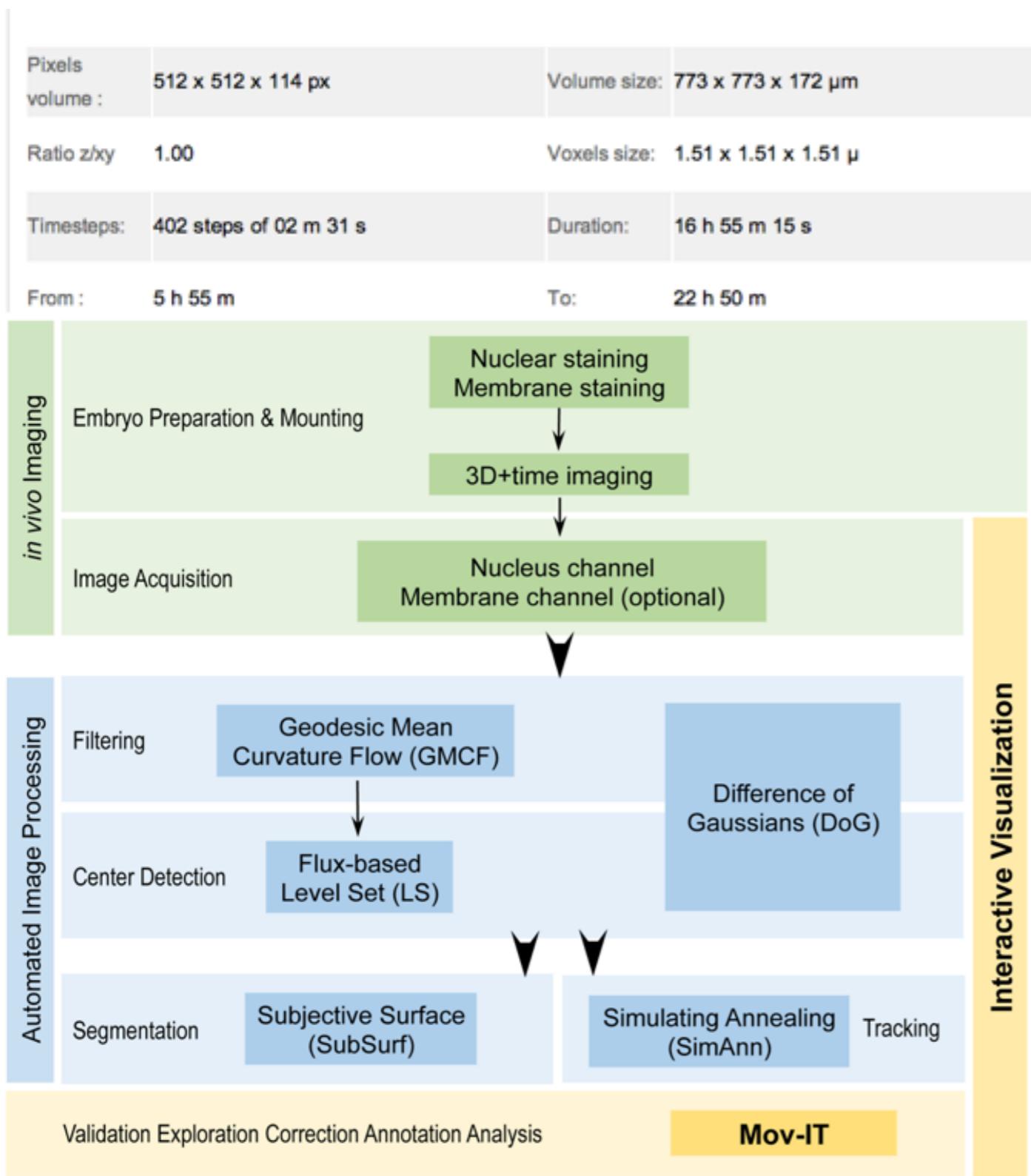
USR3695 CNRS BioEmergences
Gif-sur-Yvette

0 min



e-infrastructure concept: webservice for shared database and tools

<http://bioemergences.eu>





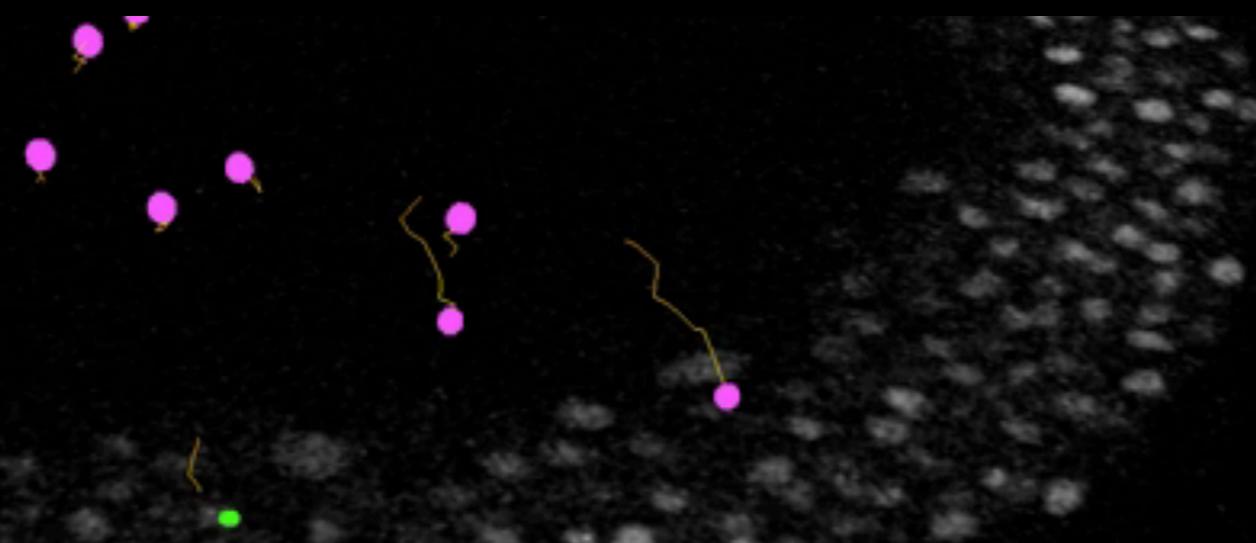
FRANCE-BIOIMAGING

BioEmergences Webservice

email to: nadine.peyrieras@cnrs.fr

Bio
Emergences

Validated cell clones
Raw data single orthoslice



Multilevel dynamics modeled from 3D+time imaging data

BioEmergences workflow

Faure et al. *Nature Comm.* 2016

Gene expression atlas

Castro et al. *Plos Comp Biol* 2014

Kinematic analysis

Pastor et al. *BioArxiv*

Theoretical model

Phenomenological
multilevel model

Simulated
multilevel model

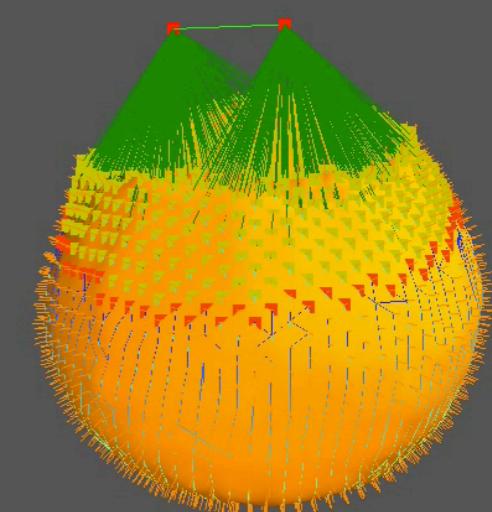
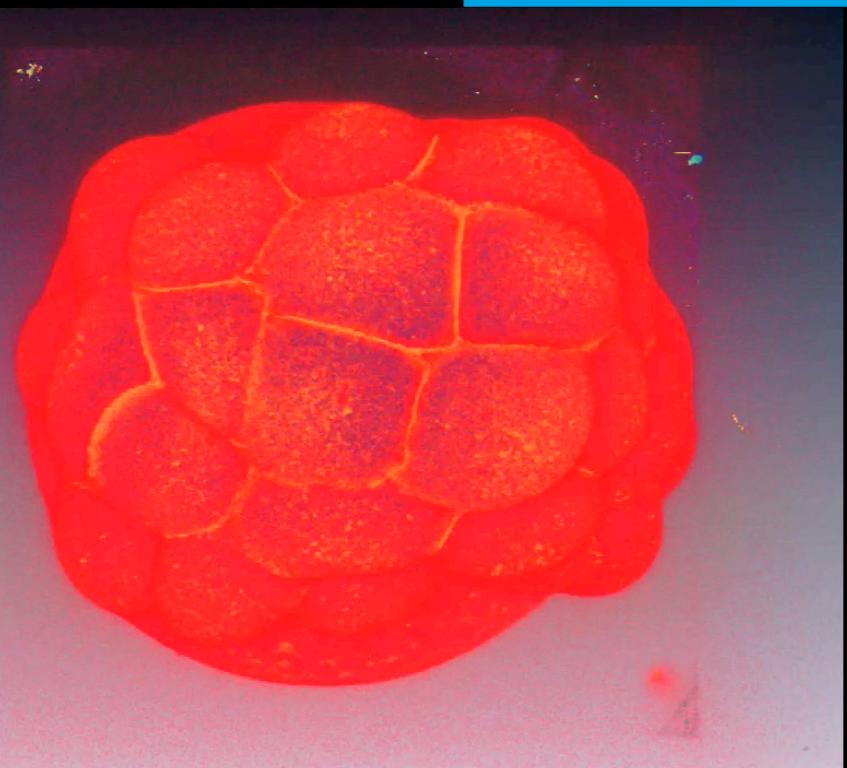
Multiscale 4D
raw data

Phenomenological
multilevel data

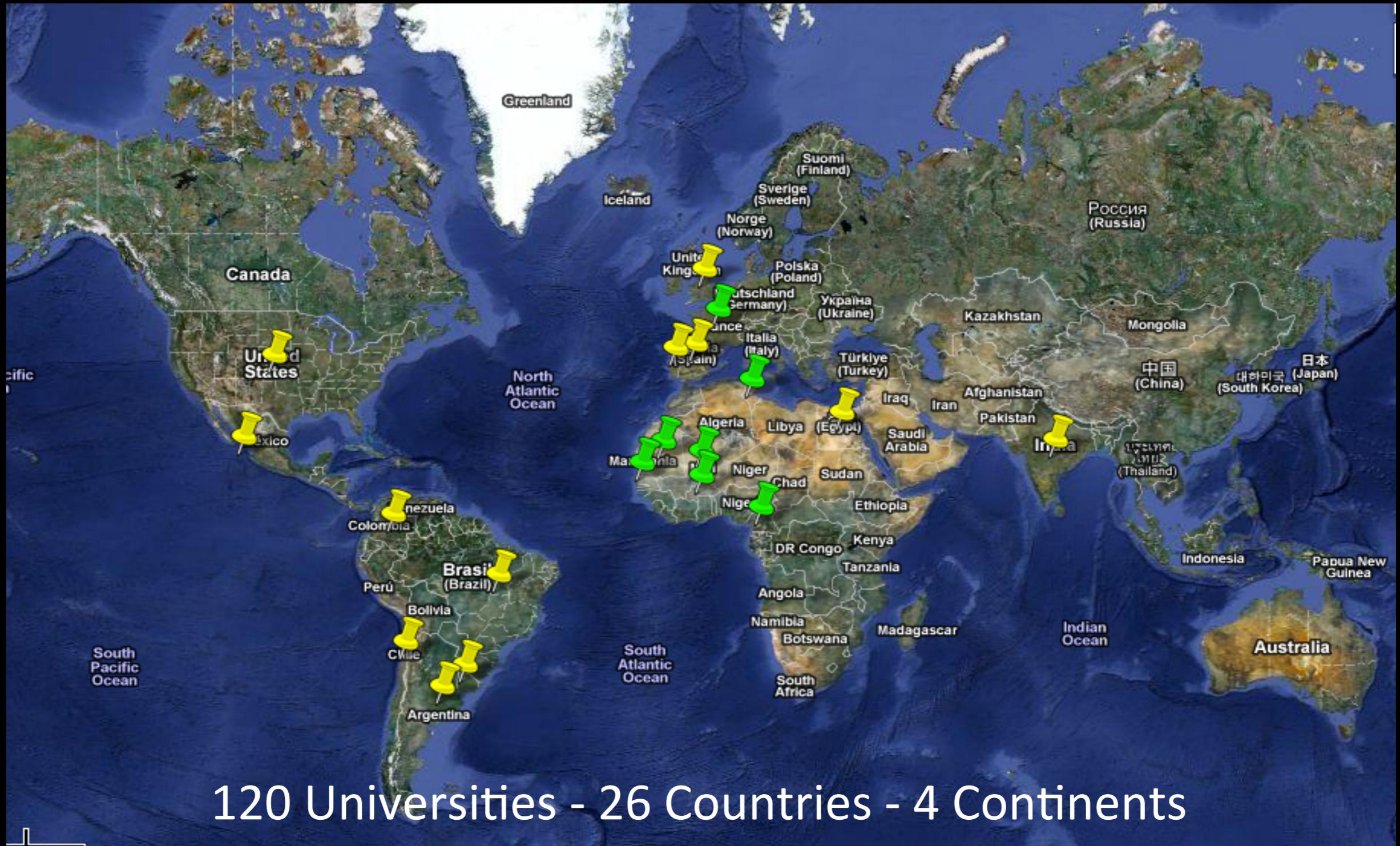
Virtual
multilevel data

Visualization

MECAGEN
Delile et al. *Nature Comm.* 2017



Complex Systems Digital Campus: CS-DC UNESCO UniTwin <http://cs-dc.org/>



A shared Ecosystem for research and education

Current members

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Adil Bakayan
Clovis Béraud
Mathieu Bouyrie
Sylvia Bruneau
Julien Dumont
Dimitri Fabrèges
Monique Frain
Mark Hammons
Matthieu Herrmann
Fanny Husson
Yannick Kergosien
Antonio Ortiz
David Pastor
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LAL IDG Michel Jouvin
cclN2P3 Jean Yves Nief
Banyuls Marine Station
Villefranche/mer Marine Station

Industrial partner

PhaseView - Cyprian Wozniak

50 μ



