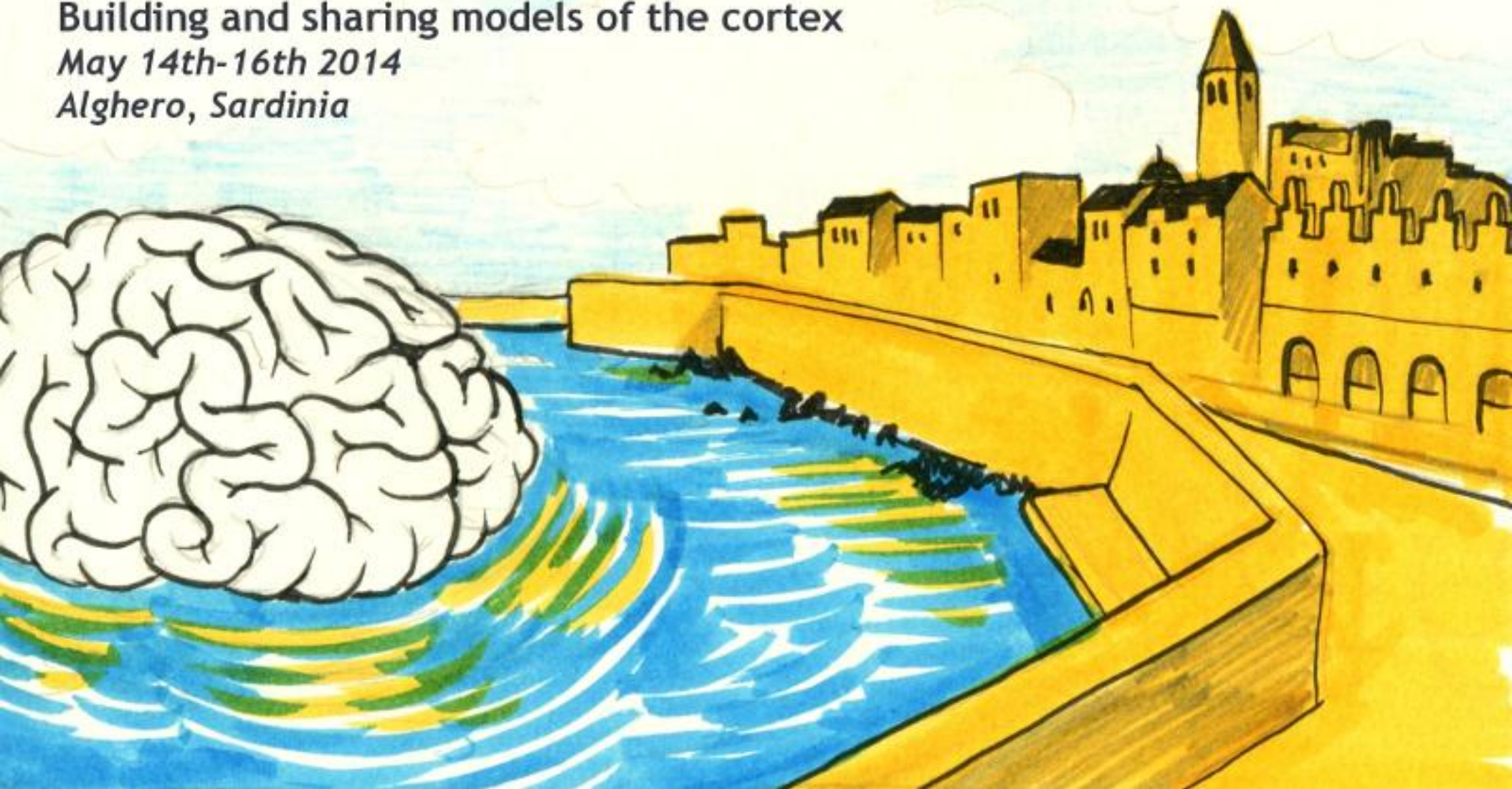




Building and sharing models of the cortex

May 14th-16th 2014

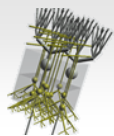
Alghero, Sardinia



Art work by Matteo Farinella

<http://www.opensourcebrain.org>

neuroConstruct



[NeuroML]



OPEN SOURCE BRAIN

wellcome^{trust}

OSB meeting Organization and funding

Organising committee: **Padraig Gleeson**, Boris Marin,
Eugenio Piasini, Sharon Crook, Angus Silver

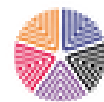


Local organisers: **Sergio Solinas**, Irene Solinas

Symposium: Oscillation and resonance in CNS network loops

Funding:

wellcometrust



Fondazione
Banco di Sardegna

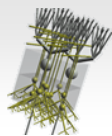


FONDAZIONE ISTITUTO NEUROLOGICO NAZIONALE C. MONDINO
Istituto di Ricovero e Cura a Carattere Scientifico



Sistema Sanitario  Regione
Lombardia

neuroConstruct



[NeuroML]



OPEN SOURCE BRAIN

wellcometrust

OPEN SOURCE BRAIN



Making models more transparent and accessible with NeuroML2/LEMS

Angus Silver

OSB2014 - Sardinia

<http://www.opensourcebrain.org>

How to make computational neuroscience a more accepted scientific approach?

Reproducibility: easy to rerun and validate simulation result reported in a scientific paper.

Accessibility: available to theoretical and experimental neuroscientists in an understandable format

Portability: cross-simulator validation and exchange of models and components enabling reuse

Transparency: exposure of internal properties and automated validation

Neuroinformatics infrastructure

NeuroML

A simulator-independent language for describing and exchanging detailed neuronal and network models

LEMS

Compact and flexible model description language that underlies NeuroML 2

The Open Source Brain Initiative

Accessible repository of standardized models and infrastructure for collaborative, open source model development

The Open Source Brain repository

[About](#)[Explore Open Source Brain](#)[Sign in](#)[Sign up](#)

Modelling the brain, together

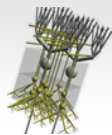
Open Source Brain is a resource for sharing and collaboratively developing computational models of neural systems.

[Explore OSB](#)[Sign up](#)[About](#) [Guides](#) [Research Themes](#)

Open Source Brain © 2013. All rights reserved. Website powered by [Redmine](#)

Supported by
wellcometrust

neuroConstruct



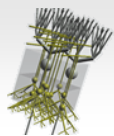
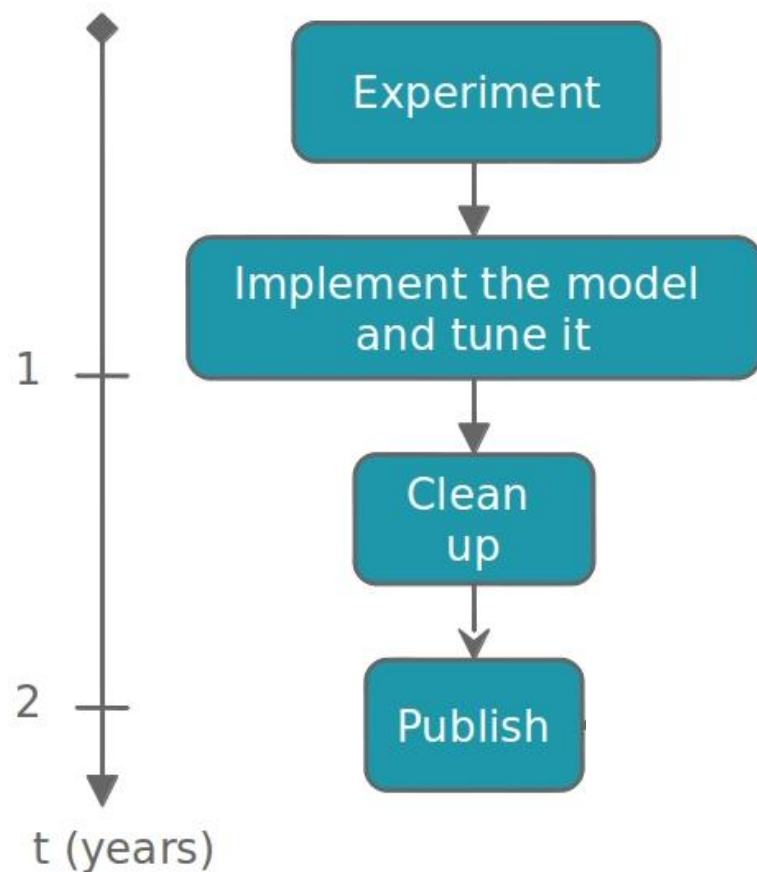
[NeuroML]



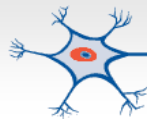
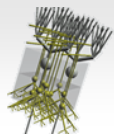
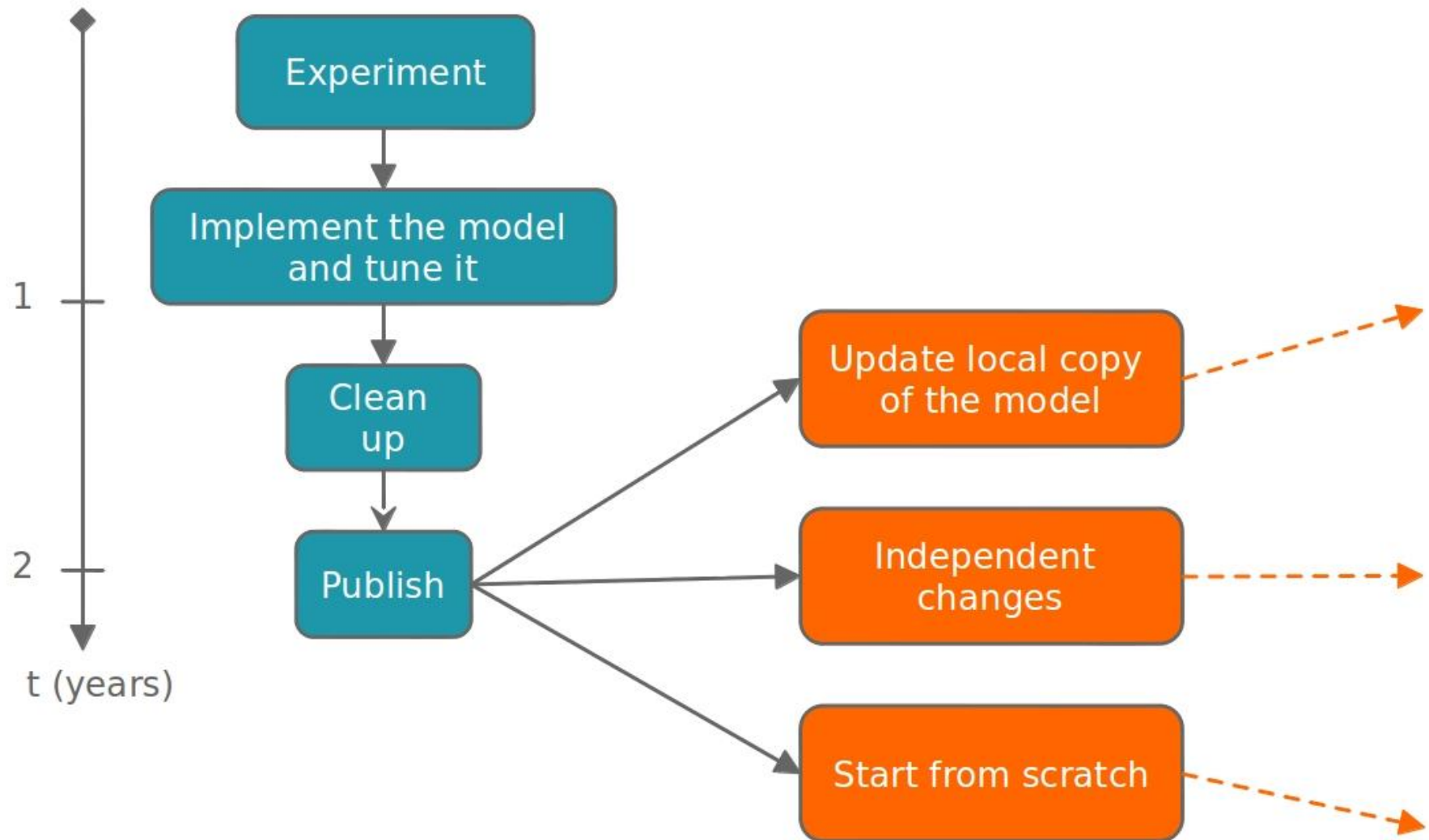
OPEN SOURCE BRAIN

wellcometrust

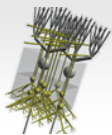
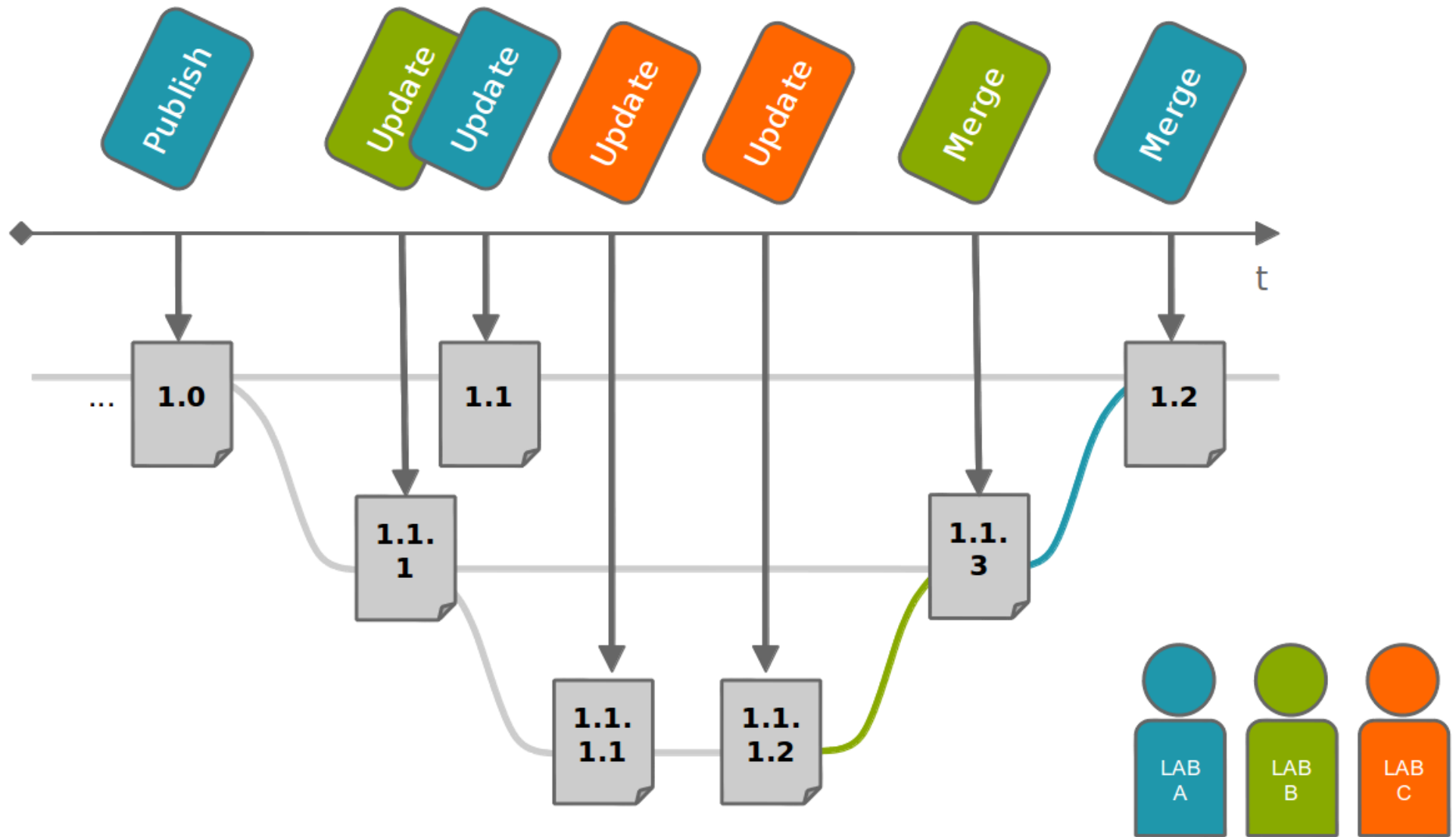
Current model development life-cycle



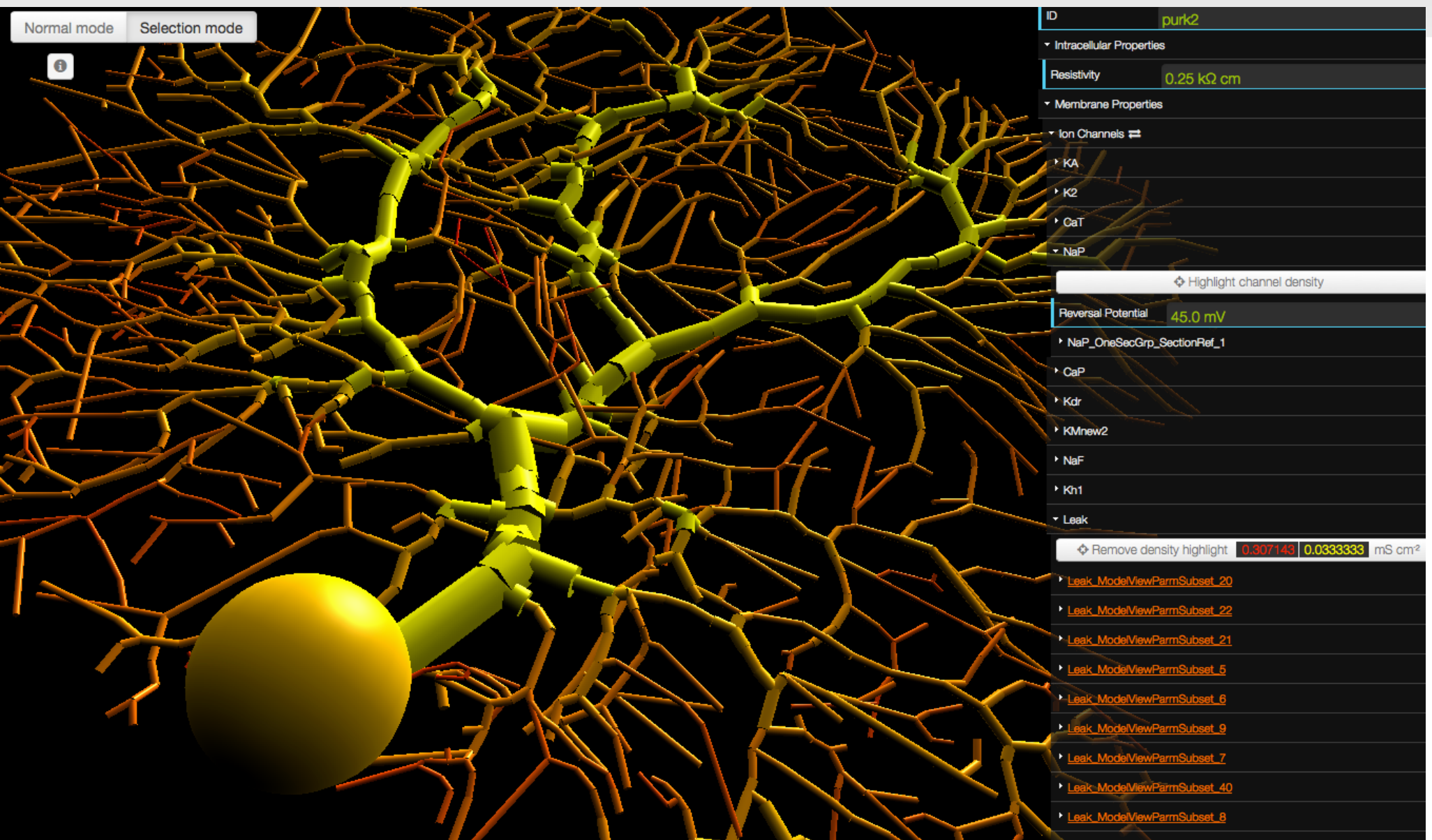
Current model development life-cycle



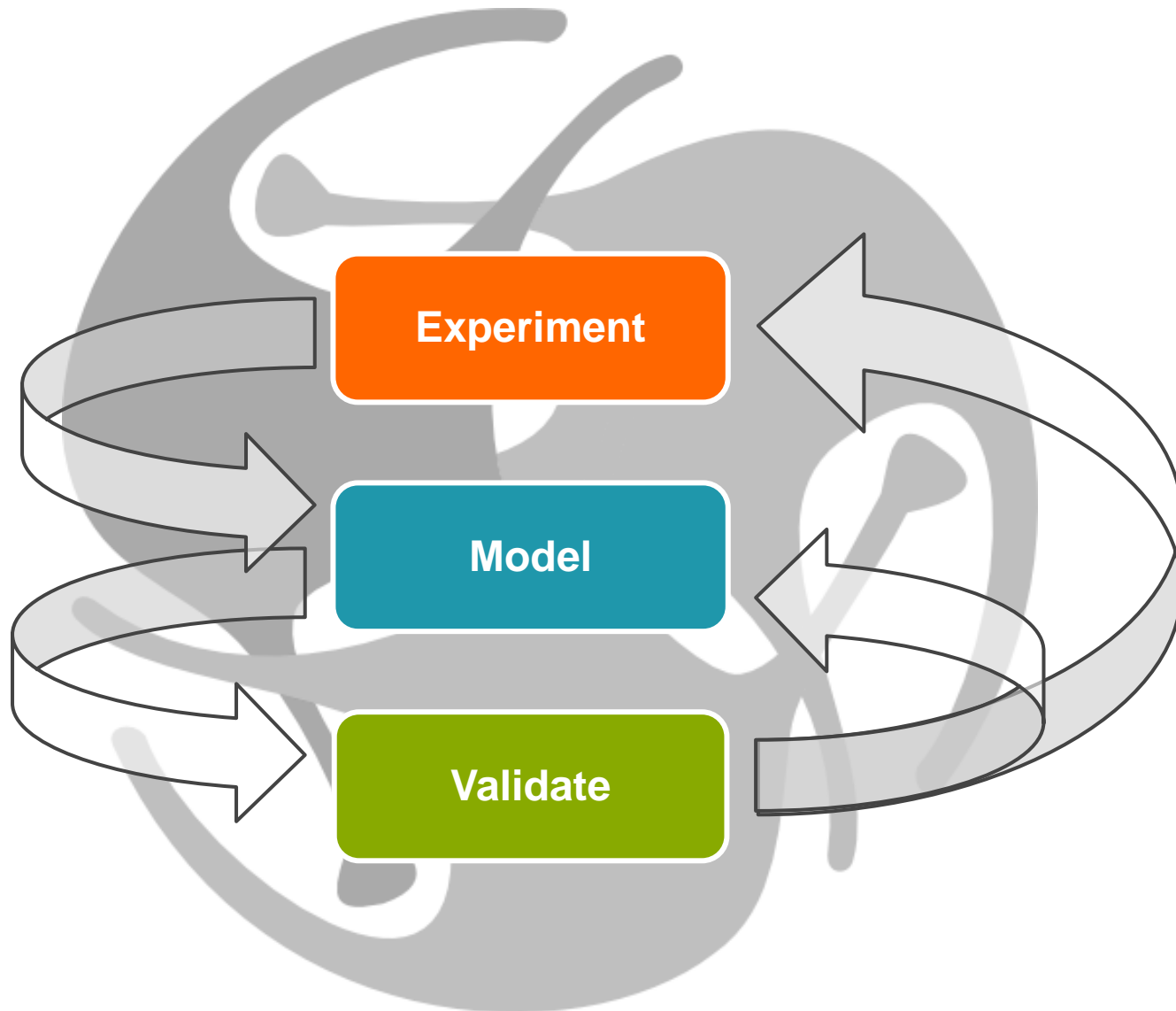
OSB collaborative development scenario



Channel density distribution on Purkinje cell



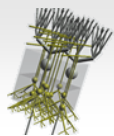
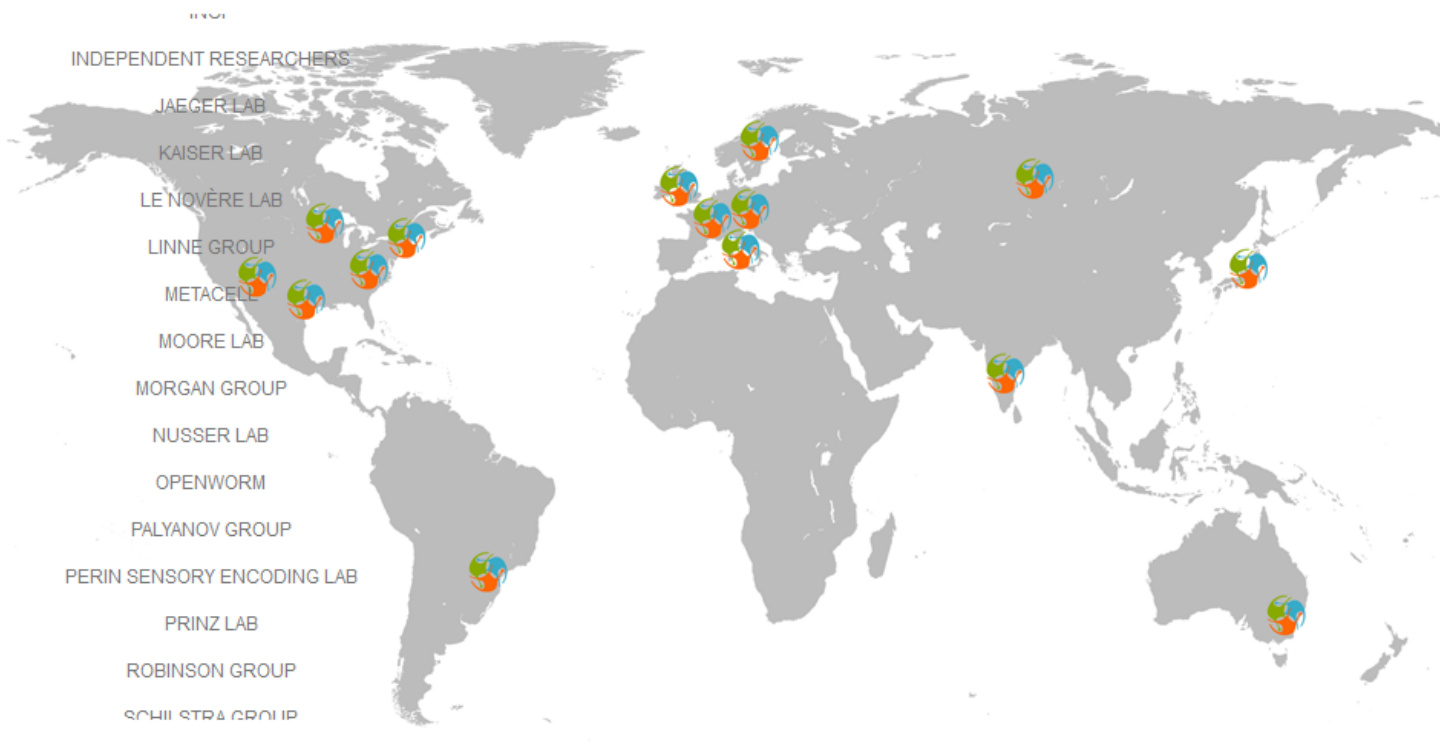
OSB iterative development through critical evaluation





<http://www.opensourcebrain.org>

254 Members 42 Research groups 79 Projects



How to make computational neuroscience more scientific ?

Reproducibility: easy to rerun and validate simulation result reported in a scientific paper.

Accessibility: available to theoretical and experimental neuroscientists in an understandable format

Portability: cross-simulator validation and exchange of models and components enabling reuse

Transparency: exposure of internal properties and automated validation

