

NEURON Open Source Development



ModelDB provides an accessible location for storing and efficiently retrieving computational neuroscience models. ModelDB is tightly coupled with NeuronDB. Models can be coded in any language for any environment. Model code can be viewed before downloading and browsers can be set to auto-launch the models. About model sharing in general and ModelDB in particular.

Submit a new model entry Help Model entry tutorial

Find models by: model name, first author, each author, Region(circuits)
Find models for: Cell type, Current, Receptor, Transmitters, Topic, Simulators, Methods
Find models of: Networks, Neurons, Synapses, Electrical synapses (gap junctions), Chemical synapses, Ion channels, Neuromuscular junctions, Axons




Search for models by author name or accession number [input] Search
Search for SenseLab models using Google [input] Search Hints

SimToolDB Homepage - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://senselab.med.yale.edu/SimToolDB/

quick_reference.html quick_reference.html EPFL BlueGene/L Ho... Index of /ftp/neuron/ve... Mercurial repositories i... Commons



SimToolDB provides an accessible location for storing and efficiently retrieving tools which aid simulations of neuronal and network compartmental models. Simulation tools can be coded in any language for any environment. Simulation tools code can be viewed before downloading or auto-launching.

- Find simulation tools that relate to a [topic](#), e.g. statistics, controlling a simulator, performing network diagnostics, etc.
- List all simulation tools sorted by [simulation tools name](#)
- Find simulation tools that run in a particular [Simulation environment](#)

- [Login](#) to edit your tools
- Related [Resources \(from ModelDB\)](#)

Done



Tools list

Select name to get detailed information

	Name
1	AP halfwidth measurement for NEURON
2	Average a data file to make a smaller data file
3	Carnevale methods for creating movies under NEURON
4	Convert NEURON vectors to sine wave "wav" audio files
5	Cross Correlation Tool
6	Demonstration of order of execution of blocks in NEURON mod files
7	Destexhe methods for creating movies from NEURON
8	Find a file within the paths supplied by an environment variable.
9	MFP
10	Modification of the built-in NetStim.mod of NEURON 6.1 (Johannes Luthman)
11	NEURON interface to GAUL (Neymotin and Lytton)
12	NQS
13	NeuGen
14	NeuroidNet Simulator
15	PANDORA Neural Analysis Toolbox
16	Robust formant tracking (Mustafa and Bruce 2006)
17	Stretch reflex and gamma loop
18	emacs mode scripts for hoc and mod files
19	fftilt



Cross Correlation Tool

This GUI tool wraps the Vector.correl function
http://www.neuron.yale.edu/neuron/docs/help/neuron/general/classes/vector/vect2.html#
Since Vector.correl is implemented using the fast fourier transform this tool interpolates the vectors in the domain tbegin to tend onto a grid with number of points equal to a power of 2. To do this an "actual dt" is selected which is near the "nominal dt" grid spacing and satisfies (tend-tbegin)/"actual dt" = 2^n where n is an integer.

Tool Information (Click on a link to find other Tools with that property)
Tool Type: Analysis; Vector extensions; Statistics; Convolution;
Simulation Environment: Neuron;

tool files Download zip file Auto-launch Help downloading and running tools

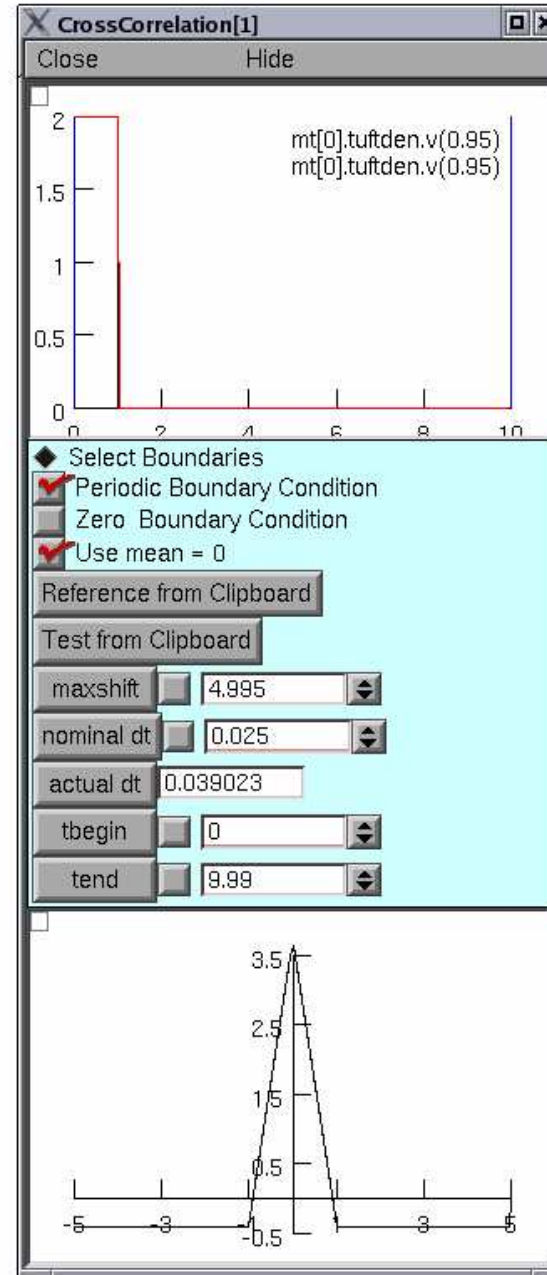
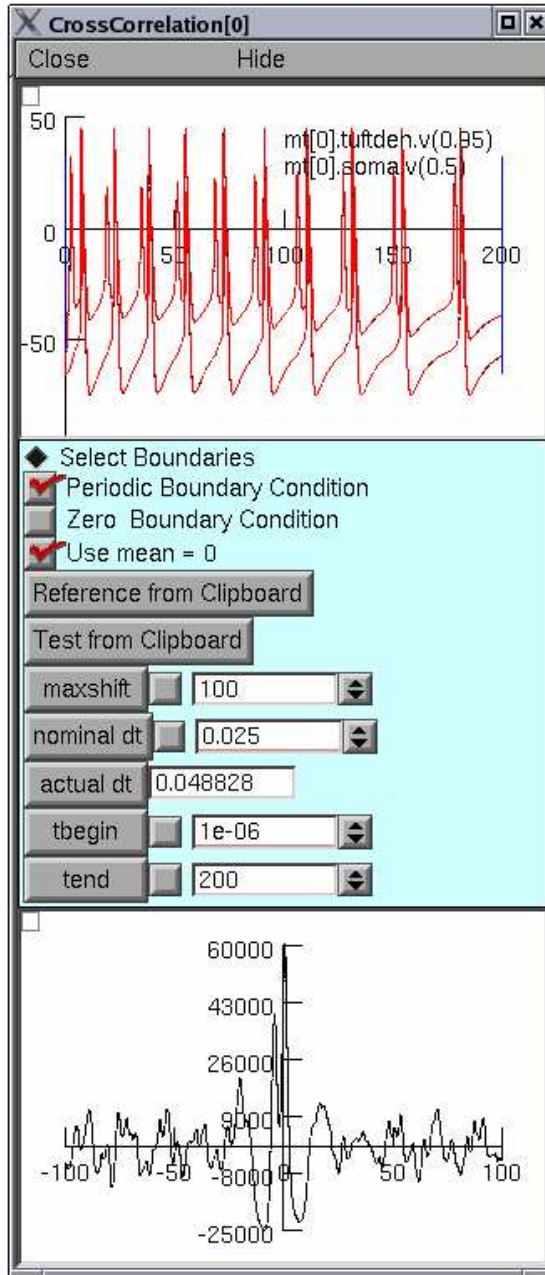
- correl
README
mosinit.hoc
correl.hoc
tmp1.dat
tmp2.dat
tmp3.dat

Cross correlation
objref correl
correl = new CrossCorrelation(yref, tref, ytest, ttest)
A GUI for viewing cross correlation between a reference and test vector function.
Two curves, ref(t) and test(t) are displayed on top graph.
Bottom graph shows
integral from tbegin to tend of
ref(t)*test(t+shift)*dt
where shift ranges from -maxshift to +maxshift.
This wraps the Vector.correl function
http://www.neuron.yale.edu/neuron/docs/help/neuron/general/classes/vector/vect2.html#correl
Since Vector.correl is implemented using the fast fourier transform
this tool interpolates the vectors in the domain tbegin to tend onto

NEURON Main Menu

Iconify

File Edit Build Tools Graph Vector Window




Mercurial repositories index - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.neuron.yale.edu/hg

Most Visited CentOS Support English quick_reference.html Mercurial repository... alpha



Mercurial Repositories

Name	Description	Contact	Last change
neuron/iv	unknown	unknown	5 months ago
neuron/nrn	unknown	unknown	4 days ago
neuron/releases/nrn-7.0	unknown	unknown	14 months ago
neuron/releases/nrn-7.1	unknown	unknown	4 months ago
z/models/nrntraub	unknown	unknown	3 months ago
z/neuron/nrnbgp	unknown	unknown	2 weeks ago


Done

neuron/nrn: revision graph - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.neuron.yale.edu/hg/neuron/nrn/graph/7b4f020b29e8

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neuron/nrn

graph

less more | rev 426: (0) -300 -100 -50 -25 tip

log
graph
tags
branches
changeset
browse

- [BEFORE and AFTER blocks may need to get and set ion variables according](#) trunk tip
4 days ago, by Michael Hines
- [posix_memalign seems not to work on Darwin 10.6.2](#) trunk
11 days ago, by michaelhines
- [--with-multisend \(as opposed to --with-multisend-bgp\) did not compile since](#) trunk
2 weeks ago, by Michael Hines
- [Merge the USENCS modifications needed for the neurodamus extension](#) trunk
2 weeks ago, by Michael Hines
- [Location of terminfo database xterm changed for cygwin rxvt terminal window.](#) trunk
2 weeks ago, by Michael Hines
- [NEURON + MUSIC Python interface. Requires MUSIC v 1.0.6.](#) trunk
2 weeks ago, by Michael Hines
- [Combine the nrnmusic.h files in neuronmusic and nmiv into a single header](#) trunk
2 weeks ago, by Michael Hines
- [incorporate neuronmusic as part of the NEURON package.](#) trunk
2 weeks ago, by Michael Hines
- [merge](#) trunk
3 weeks ago, by Michael Hines
- [nrnmpi_init only initializes once](#) trunk
3 weeks ago, by Michael Hines
- [comment out debug printf](#) trunk
4 months ago, by Michael Hines
- [testing two cell. hangs in switch to run phase](#) trunk
5 months ago, by Michael Hines


Done

neuron/nrn: db72438a868e - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.neuron.yale.edu/hg/neuron/nrn/rev/db72438a868e

Most Visited CentOS Support English quick_reference.html Mercurial repository... alpha



neuron/nrn

changeset 421:db72438a868e trunk

NEURON + MUSIC Python interface. Requires MUSIC v 1.0.6.
Configure with at least --with-nrnpython --with-music=/where/music/is/installed

author Michael Hines <michael.hines@yale.edu>
date Thu Feb 25 07:34:50 2010 -0500 (2 weeks ago)
parents [7ca15a89105d](#) [dc49a6995adc](#)
children [615063ede00a](#)
files

log
graph
tags
branches

changeset
raw
browse

line diff

```

1.1 --- a/configure.in      Wed Feb 24 14:32:18 2010 -0500
1.2 +++ b/configure.in      Thu Feb 25 07:34:50 2010 -0500
1.3 @@ -215,6 +215,7 @@
1.4  AC_SUBST(MINGW_CFLAG)
1.5  AC_SUBST(EXTRA_CYGWIN_FLAGS)
1.6
1.7 +AC_NRN_MUSIC
1.8  AC_NRN_PARANEURON
1.9  AC_NRN_WITH_MPI
1.10 AC_NRN_WITH_METIS
1.11 @@ -510,7 +511,7 @@
1.12      src/mswin/extra/Makefile src/mswin/rdln/Makefile
1.13      src/mswin/windll/Makefile src/mswin/winio/Makefile
1.14      src/mswin/wrnrbbs/Makefile src/mswin/lib/Makefile
1.15 -      src/mswin/bin/Makefile
1.16 +      src/mswin/bin/Makefile src/neuronmusic/Makefile src/neuronmusic/setup.py
1.17      share/Makefile bin/nrnoc_makefile bin/nrniv_makefile bin/nrnmech_makefile
1.18      share/lib/Makefile share/lib/hoc/Makefile share/lib/python/Makefile
1.19      share/lib/hoc/celbild/Makefile share/lib/hoc/mulfit/Makefile
1.20
1.21 --- a/m4/nrnpython.m4    Wed Feb 24 14:32:18 2010 -0500

```

Done

mercurial – distributed source control management

NEURON sources (c, c++, nrn/lib/hoc, nrn/lib/python)

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<http://hgbook.red-bean.com/read/>

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Why mercurial?

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Why mercurial?

Developers have their own independent repository to manage their project.

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Can always stay up to date with the version at the NEURON web site without losing their changes.

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Can publish their repository independently or ask me to incorporate into the main NEURON repository.

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<http://hgbook.red-bean.com/read/>

Why mercurial?

Developers have their own independent repository to manage their project.

Can always stay up to date with the version at the NEURON web site without losing their changes.

Can publish their repository independently or ask me to incorporate into the main NEURON repository.

Accomplishes this easily by strong support for merging changes from one repository into another.

Getting started

hg clone <http://www.neuron.yale.edu/hg/neuron/nrn>

Getting started

```
hg clone http://www.neuron.yale.edu/hg/neuron/nrn nrn
```

```
hg pull
```

```
hg update
```

Getting started

```
hg clone http://www.neuron.yale.edu/hg/neuron/nrn nrn
```

```
hg pull
```

```
hg update
```

```
hg help
```

```
hg status
```

```
hg diff
```

```
hg log -l 5
```

```
hg commit
```

Getting started

hg clone <http://www.neuron.yale.edu/hg/neuron/nrn> nrn

hg pull

hg update

hg help

hg status

hg diff

hg log -l 5

hg commit

hg bundle mychanges.hg <http://www.neuron.yale.edu/hg/neuron/nrn>
#and send to michael.hines@yale.edu

Example

create a new repository

mkdir main

cd main

em file1

main.file1

line 1

line 2

line 3

line 4

line 5

line 6

line 7

line 8

line 9

line 10

Example

create a new repository

mkdir main

cd main

em file1

hg init

hg add

adding file1

hg commit -m 'first commit in main'

main.file1

line 1

line 2

line 3

line 4

line 5

line 6

line 7

line 8

line 9

line 10

Example

create a new repository

mkdir main

cd main

em file1

hg init

hg add

adding file1

hg commit -m 'first commit in main'

hg log

changeset: 0:4d92e1bc67da

tag: tip

user: Michael Hines <michael.hines@yale.edu>

date: Thu Mar 18 13:54:53 2010 -0400

summary: first commit in main

main.file1

line 1

line 2

line 3

line 4

line 5

line 6

line 7

line 8

line 9

line 10

cd ..

hg clone main myversion

updating working directory

1 files updated, 0 files merged, 0 files removed, 0 files unresolved

cd ..

hg clone main myversion

updating working directory

1 files updated, 0 files merged, 0 files removed, 0 files unresolved

cd myversion

myversion.file1

line 1

line 2

line 3

line 4

line 5

line 6

line 7

line 8

line 9

line 10

cd ..

hg clone main myversion

updating working directory

1 files updated, 0 files merged, 0 files removed, 0 files unresolved

cd myversion

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myversion.file1

line 1

line 2

line 3

line 4

line 5

line 6

line 7

line 8

line 9

line 10

cd ..

hg clone main myversion

updating working directory

1 files updated, 0 files merged, 0 files removed, 0 files unresolved

cd myversion

hg log

changeset: 0:4d92e1bc67da

tag: tip

user: Michael Hines <michael.hines@yale.edu>

date: Thu Mar 18 13:54:53 2010 -0400

summary: first commit in main

em file

myversion.file1

line 1

line 2

line 3 changed line 3

line 4

line 5

line 6

line 7

line 8

line 9

line 10

cd ..

hg clone main myversion

updating working directory

1 files updated, 0 files merged, 0 files removed, 0 files unresolved

cd myversion

hg log

changeset: 0:4d92e1bc67da

tag: tip

user: Michael Hines <michael.hines@yale.edu>

date: Thu Mar 18 13:54:53 2010 -0400

summary: first commit in main

em file

hg commit -m 'changed line 3 in myversion'

myversion.file1

line 1

line 2

line 3 changed line 3

line 4

line 5

line 6

line 7

line 8

line 9

line 10

cd ../main

main.file1

line 1

line 2

line 3

line 4

line 5

line 6

line 7

line 8

line 9

line 10

```
cd ../main  
em
```

main.file1

line 1

line 2

line 3

line 4

line 5

line 6

line 7

line 8

line 9 changed line 9

line 10

cd ../main

em

hg commit -m 'changed line 9 in main'

hg log

changeset: 1:8056f47bed41

tag: tip

user: Michael Hines <michael.hines@yale.edu>

date: Thu Mar 18 14:04:52 2010 -0400

summary: changed line 9 in main

changeset: 0:4d92e1bc67da

user: Michael Hines <michael.hines@yale.edu>

date: Thu Mar 18 13:54:53 2010 -0400

summary: first commit in main

main.file1

line 1

line 2

line 3

line 4

line 5

line 6

line 7

line 8

line 9 changed line 9

line 10

cd ../myversion

myversion.file1

line 1

line 2

line 3 changed line 3

line 4

line 5

line 6

line 7

line 8

line 9

line 10

cd ../myversion

hg pull

pulling from /home/hines/talks/opensource/main

searching for changes

adding changesets

adding manifests

adding file changes

added 1 changesets with 1 changes to 1 files (+1 heads)

(run 'hg heads' to see heads, 'hg merge' to merge)

myversion.file1

line 1

line 2

line 3 changed line 3

line 4

line 5

line 6

line 7

line 8

line 9

line 10

cd ../myversion

hg pull

pulling from /home/hines/talks/opensource/main

searching for changes

adding changesets

adding manifests

adding file changes

added 1 changesets with 1 changes to 1 files (+1 heads)

(run 'hg heads' to see heads, 'hg merge' to merge)

hg log

changeset: 2:8056f47bed41

tag: tip

parent: 0:4d92e1bc67da

user: Michael Hines <michael.hines@yale.edu>

date: Thu Mar 18 14:04:52 2010 -0400

summary: changed line 9 in main

changeset: 1:ecd22b68116b

user: Michael Hines <michael.hines@yale.edu>

date: Thu Mar 18 14:00:37 2010 -0400

summary: changed line 3 in myversion

changeset: 0:4d92e1bc67da

user: Michael Hines <michael.hines@yale.edu>

date: Thu Mar 18 13:54:53 2010 -0400

summary: first commit in main

myversion.file1

line 1

line 2

line 3 changed line 3

line 4

line 5

line 6

line 7

line 8

line 9

line 10

hg merge

merging file1

0 files updated, 1 files merged, 0 files removed, 0 files unresolved
(branch merge, don't forget to commit)

myversion.file1

line 1

line 2

line 3 changed line 3

line 4

line 5

line 6

line 7

line 8

line 9 changed line 9

line 10

hg commit -m 'merge'

myversion.file1

line 1

line 2

line 3 changed line 3

line 4

line 5

line 6

line 7

line 8

line 9 changed line 9

line 10

hg commit -m 'merge'

hg glog

```
@ changeset: 3:9e193affb57c
| \ tag:      tip
| | parent:   1:ecd22b68116b
| | parent:   2:8056f47bed41
| | user:     Michael Hines <michael.hines@yale.edu>
| | date:     Thu Mar 18 14:10:06 2010 -0400
| | summary:  merge
| |
| o changeset: 2:8056f47bed41
| | parent:    0:4d92e1bc67da
| | user:     Michael Hines <michael.hines@yale.edu>
| | date:     Thu Mar 18 14:04:52 2010 -0400
| | summary:  changed line 9 in main
| |
o | changeset: 1:ecd22b68116b
| / user:     Michael Hines <michael.hines@yale.edu>
| | date:     Thu Mar 18 14:00:37 2010 -0400
| | summary:  changed line 3 in myversion
|
o changeset: 0:4d92e1bc67da
  user:     Michael Hines <michael.hines@yale.edu>
  date:     Thu Mar 18 13:54:53 2010 -0400
  summary:  first commit in main
```

myversion.file1

```
line 1
line 2
line 3 changed line 3
line 4
line 5
line 6
line 7
line 8
line 9 changed line 9
line 10
```

Some projects recently merged
into the main repository.

MUSIC + NEURON 20

BlueGene/P DCMF multiseed spike exchange

Python Version 3 + NEURON

Python can use ParallelContext bulletin board.

NCS controlled spike exchange