

NIF

UCSanDiego NEUROSCIENCE GATEWAY PORTAL

Making Computational Models More Accessible Evan Sheng, San Diego Supercomputer Center, UCSD,

San Diego, CA

<u>NSG Portal</u>

Page 6
Page 4
Page 2
Page 4

Toolki

Introduction

ModelDB

Currently, Neuroscientists wishing to view data of computational model may not be able to do so. This may be due to a lack of access to a powerful computer that can handle the demand of a heavy computational model. In order for scientists to more easily access this data, the NSG project will provide outputs of these computational models for the scientists without the burden of computing them themselves, or getting access to a high powered machine which can do so. The models were run via the NSG Portal through the trestles supercomputer.

Workbenc	h My Pro	ofile H	elp	How to	Cite Us	: Lo	gout	Joł
								21
Tasks]							
Refresh Task	s				Current CF	PU Hr Usage	e: 0 <u>Exp</u>	lain this
		Shov	/					
There are curren (Items 1 - 16 are	ntly 16 tasks in this shown here.)	tab. 20			•	« •	Page 1 o	f 1 > ≫
		recor	ds on ea	ch page				
Select all	Label	Tool	Input	Parameters	Output	Date Created	Action	
Clone	9889 lytton	NEURON7.3	View (1)	View (4)	View (2)	7/18/13, 12:05	View	Dutput
Clone	116862 b09	NEURON7.3	View (1)	View (4)	View (2)	7/18/13, 12:03	View	Dutput
Clone	9849 westerfield78	NEURON7.3	View (1)	View (4)	View (2)	7/18/13, 12:01	View	Dutput
Clone	53965 zipped	NEURON7.3	View (1)	View (5)	View (2)	7/18/13, 12:00	View (Dutput
Clone	129067 welday	NEURON7.3	View (1)	View (5)	View (2)	7/18/13, 11:58	View (Dutput
Clone	144054 mctavish	NEURON7.3	View (1)	View (5)	View (2)	7/18/13, 11:54	View (Dutput
Clone	19747 CoHCN	NEURON7.3	View (1)	View (4)	View (2)	7/18/13, 11:52	View (Dutput
Clone	147141 stdp	NEURON7.3	View (1)	View (4)	View (2)	7/18/13, 11:51	View (Dutput
Clone	3815 tsodysk	NEURON7.3	View (1)	View (4)	View (2)	7/18/13, 11:46	View (Dutput
Clone	124043 Iarkum	NEURON7.3	View (1)	View (4)	View (2)	7/18/13, 11:44	View (Output
Clone	136095 ncdemo	NEURON7.3	View (1)	View (4)	View (2)	7/18/13, 11:41	View	Dutput
Clone	139657 Kopp	NEURON7.3	View	View (4)	View	7/18/13,	View (Dutput

Methods

In this project, the NSG Portal was utilized as an easier way to run models through the Trestles

NSG Portal



Abstract

The object of the NSG Project is to make data from computational models more accessible for neuroscientists to view and use. The data from these models are time consuming to produce, especially to those without access to a computer powerful enough to process large tasks efficiently. These models were obtained from Model DB, and ran via the NSG Portal through the trestles supercomputer. Overall, we were able to expand both the NSG Portal and NIF Database during the course of this project. From the data we collected from running the models, we created a spreadsheet that was uploaded on to the NIF webpage, making data accessible to the public, thereby expanding the NIF Database. From the experience we gathered running all the models, we created a user guide detailing the process of running models via NSG, improving the NSG Portal.



Activity dependent regulation of pacemaker channels by cAMP (Wang et al 2002)

Accession: 19176

Demonstration of the physiological consequences of the cyclic allosteric gating scheme for Ih mediated by HCN2 in thalamocortical relay cells. Reference: Wang J, Chen S, Nolan MF, Siegelbaum SA (2002) Activity-Dependent Regulation of HCN Pacemaker Channels by Cyclic AMP: Signaling through Dynamic Allosteric Coupling Neuron 36:451-61 [PubMed]

Citations Citation Browser

odel Information (Click)	on a link to find other models with that property)	
Model Type:	Neuron or other electrically excitable cell;	
ain Region(s)/Organism:		
Cell Type(s):	Thalamic relay neuron;	
Channel(s):	<u>I K,leak; I h;</u>	
Gap Junctions:		
Receptor(s):		_
Gene(s):		
Transmitter(s):		
Simulation Environment:	Neuron;	
Model Concept(s):	Activity Patterns; Ion Channel Kinetics;	
Implementer(s):	Nolan, Matt [mfnolan at fido.cpmc.columbia.edu]; Chen, Shan [sc448 at columbia.edu];	

Search NeuronDB for information about: Thalamic relay neuron; IK,leak; Ih;

Model files Download	zip file Auto-launch Control Simulation Platform Help downloading and running models							
D) D <u>HCN2k</u> D <u>readme txt</u>	This package is running with the NEURON simulation program written by Michael Hines and available on internet at: http://www.neuro.duke.edu/neuron/home.html							
D <u>hcn2.mod</u> D <u>HH2.mod</u> D <u>kleak.mod</u> D <u>cAMPclamp.mod</u> D <u>mosinit.hoc</u> D <u>TCIClamp.hoc</u> D <u>TCIClamp.hoc</u> D <u>TCmod.tem</u>	The package contains mechanisms (.mod files) and programs (.oc files) needed to simulate interconnected thalamocortical (TRN) relative to the paper: Wang, J., Chen, S., Nolan, M. F. and Siegelbaum, S. A. (2002) Activity- Dependent Regulation of HCN Pacemaker Channels by Cyclic AMP: Signaling through Dynamic Allosteric Coupling. Neuron 36(3), 451-462. PROGRAMS =========							
	TCIClamp.hoc Demonstration of the physiological consequences of the cyclic allosteric gating scheme for Ih mediated by HCN2 in thalamocortical relay cells. This simulation will reproduce the current-clamp experiment to examine sag and rebound responses to a current step and depolarizing responses to a CAMP pulse described in figure 7 of Wang et al. 2002. The thalamocortical cell properties are modified from Destexhe et cl 1996, with Ib removed and replaced with a bipatic model of							

How to use the NSG portal

1) Navigate to the NSG portal at http://www.nsgportal.org/, and click Go to the NSG Portal

The Neuroscience Gateway NSG Portal A Portal for Computational Neuroscient An Overview of NSG Portal NSG News This Neuroscience Gateway (NSG) Portal facilitates access and use of National Science Foundation (NSF) High Performance NSG workshop at Computing resources by neuroscientists. The portal offers free SFN 2013, San Diego compute time to neuroscience researchers via the NSF XSEDE

NSG Workshop at

Demonstration at SC

2012, Salt Lake City

Demonstration at

SDSC and Online

NSG Portal

NSG Portal

Through a simple web-based portal, the NSG Portal provides an administratively and technologically streamlined environment for uploading models, specifying HPC job parameters, querying running job status, receiving job completion notices, and storing and retrieving output data. The NSG architecture transparently outes user lobs to app

allocation program. It also provides a community forum for

neuroscientists to collaborate and share data.

Supercomputer. Instead of writing a PBS script for each model, the NSG portal allowed us to run the models by simply uploading data and setting a few parameters.

Story

Before using the NSG portal, we were introduced to UNIX, and became familiar with all the complex processes that came with running jobs via the supercomputer. However, we used the NSG Portal to run all of our models due to its vast efficiency compared to running them by hand. After running nearly 400 models, we compiled the data into an excel spreadsheet. To upload this data onto the NIF website, an interop script took our spreadsheet and moved the data to the NIF database. After uploading our

		19 - 1	(°" ~	Ŧ			-	-								-		modelru	n - Mic	rosoft E	xcel		
F	File Home Insert Page Layout Formulas Data Review View Acrobat																						
ſ	٦,	🔏 Cut	t 	c	alibri		* 11 *	A A	= = =	₽×~ [Wrap	Text		Gei	neral		Ŧ				Norn	nal	
Pas	Paste $\mathbf{B} \mathbf{I} \mathbf{U} \mathbf{v} \mathbf{A} \mathbf{v}$								•a• Merg	e & Cent	er 👻	\$	- %		00. 0 0.♦ 0	Conditio	onal Fo	ormat	Calcu	latio	a		
	Clipboard G Font G								Alianmen	t		G.		Numb	er	G	Formatti	ng * as	Table *	-			
_	D10 - (fx light_batch_FSdrive.hoc																						
4	A	4	В			C	0		D	E	F	G	H		1	J	K	L	M	N		0	Р
1	Mode	el Na ID	Numbe	Output file	name				main filename	program	Time tak	e Cores	node:	s	Link to mod	del							
2	Asin	igle c	45539	out8.dat,p	perf.dat				init.hoc	neuron	7 0:08:00) 3	3	1	http://sens	elab.me	d.yale	.edu/model	db/showπ	nodel. asj	p?mode	l=82894	ł
3	MEG	of 1	113732	supathres	h.dat				batch.hoc	neuron	7 0:33:00	1	1	1	http://sens	elab.me	d.yale	.edu/Modell	DB/Showl	Model.as	sp?mode	el=11373	32
4	Biopl	hysi 1	36803	out.dat,Mu	u_output.da	at			Batch.hoc	neuron	7 0:09:00	2	2	1	http://sens	elab.me	d.yale	.edu/Modell	DB/Showl	Model.as	sp?mode	el=13680	33
5	Large	esc. 1	44570	spk001-15	j.dat				parinit.hoc	neuron	7 1:40:00	10	1	24 http://senselab.med.yale.edu/modeldb/showmodel.as/						p?mode	I=14457	0	
6	CA3		35358	xpp.dat					batch_a.hoc	neuron 7	0:01:00		1	1	http://sens	elab.me	d.yale	.edu/model	db/showπ	nodel.asj	p?mode	1=35358	<u>,</u>
(Cont	trolli 1	38382	CaSpikePi	rotocol.dat				runCaSpikesUCN	1 neuron /	. 0:02:00		1	1	http://sens	elab.me	d.yale	.edu/model	db/showπ	nodel.asj	p?mode	I=13838	2
8	Dent	tate	124513	spikerast.t	txt,numCon:	s.dat			run50knet.bash	neuron	. 0:01:00		1	1	http://sens	elab.me	d.yale	.edu/model	db/showπ	nodel.as	p?mode	1=12451:	3
9	Enco	odin	123815	stdout.txt					HAM_StoRec_pa	a neuron i	. 0:06:00		1	1	http://sens	elab.me	d.yale	.edu/model	db/showπ	nodel.asj	p?mode	1=123815	5
10	Enga	agin 1	141273	FSU.dat,F	58.dat,F16t	5.dat,FS3	52.dat,FS4	U.dat,FS48.d	alight_batch_FSd	ri neuron (0:26:00		1	1	http://sens	elab.me	d.yale	.edu/model	db/showπ	nodel.asj	p?mode	1=141273	3
11	Atas	st 1	45836	ExpUS/I-IN	MUA.dat,Ex	pU5/t.dai	t,ExpU5/v.o	lat,ExpU9-Kir	r ExpU1-	neuron	0:05:00		1	1	http://sens	elab.me	d.yale	.edu/model	db/showπ	nodel.asj	p?mode	1=14583	6
12	Ion		97756	Act_data,	Deact_data				ga_setup.hoc	neuron			1		http://sens	elab.me	d.yale	edu/model	db/showπ	nodel, asj	p?mode	1=37755)
13	Shap	ping	140471	trace_ab_	1. dat, trace	_ab_ 2.d	at,trace_a	b_ 3.dat,trace	e figure5.hoc	neuron	0:01:00		1	1	http://sens	elab.me	d.yale	edu/model	db/showπ	nodel.asj	p?mode	1= 1404 7	-
14	Sode	um 1	87585	APthresho	old.txt	1		NOODOL	APthreshold.hoc	neuron			1	-	http://sens	elab.me	d.yale	edu/model	dD/showπ	nodel.asj	p?mode	1=87585	
10	Actio		23031	HUE(AIZUL	Jarrecording	gractinac	Cdat, HUEW	4IZUUJrrecord	i init.noc	neuron			1		http://sens	elab.me	d.yale	edurimodeli	JOISHOWF	nodel.as	prmode	N= 12303	<u>//</u>
10	Actio		35838	Alle_et_at	_2003rgCa	.dat,Alle_	_et_al_200	orgK.dat,Alle	_ reconstitution.ho	c neuron	7 0:00:30		1	- 1	http://sens	elab.me	d.yale	edu/Modell	JBISHOWF	nodel.as	prmode	1-11202	10 A
10	Arren	rent i	07204	naco_msp	orstimxout_j	ns_sqwai - J-v CA:	ve.dat 1 - Lavalva		mosinit.noc	neuron	7 0:00:30		1	1	http://sens	elab.me	d.yale	edurimodell	JOISHOWF	nodel.as	prmode - 2 J -	1-0720	4
10	CA1.		07204 144541		artranslater	c.dat,CA	Labetartra	ansiatercell. da	a mosinit.noc	neuron	r 0:00:30 7 0.01.00		1	- 1	http://sens	elab.me	d.yale	edunModell	JOISHOWF	nodel.as	prmode 	9=01204 J=144E4	+
13	China	pyrai 1	144341	Stabut, txt Muds:Claised	I = la iam = 1 abm 1 a	. O M.	de: Claire de la		•i_ is la	neuron			1		http://sens	elab.me -l-L	d.yale	eduriModell	JOISHOWF	nodel.as	prmode	9= 14404 1_ 14767	71
20	Differ	osan i	9/612	Consular	renirpoutpu	CO. (SC/HI IG=10 A ME	ultionirpren 20 des Cen	arpoutput_oi.	(mosinit.hoc	neuron	7 0.00.30	/ -	1	- 1	http://sens	elab.me	d.yale	.edunModell	Dishowr	nodel as	prmode =?===de	4= 14 ro r J= 94 612	,
22	Dire	rend 1	04012 47460	LanavierL	.andry2000;	ng ioami	-A.dat,Car	avierLandryz	t mosinit.noc	neuron	r 0:01:00 7 0.00.20		1	- 1	http://sens	elab.me	d.yale	edunModell	JOISHOWF	nodel.as	prmode 	2 14 7 4 C	20
22	Effec	stred 1	47400	Chlorido N	Madalaall '	Vmareka	centype i.c	a Madallaall	medicit kee	neuron	7 0.00.30	, 1	1	- 1	http://sens	elab.me	d.yale	.edu/Modell	Dershowr	nodel as	p:mode p?mode	4-14925 J-14925	20 23
23	Erec		40255 29654	2VNJacas	ModelrcelL Non-NA 2010	irmorpho.	.txt,Chioria 570 Mat	e_modelrcel(mosinit.hoc	neuron	r 0:04:30 7 0:04:30	/ -	1	- 1	http://sens	elab.me	d.yale	.edunModell	Dishowr	nodel as	prmode =?===de	1= 1402C	73 54
25	Euro	seci 1	46509	Branch P	oint Tanari	og/morek	o tut		mosinichoc	Deurop -	7 0.01.00	, 1	1	- 1	http://sens	elab.me	d usla	.edu/Modell	DBIshowr	nodel as	p:mode p?mode	J= 14650	19
26	Euro	stion 1	36026	diurisio200	08/dendete	riginioipi tot	1.305		mosinit.hoc	Deurop -	7 0.01.00	1 -	1	- 1	http://sens	elab.me olab.me	d usla	edu/Modell	Blebowr	nodel as nodel as	p?mode p?mode	d= 13602	26
27	High	frea 1	35902	SBandCB	oordapdata. Inet/nereme	 tersloopr	dat SRae	dCBoot/para	niosinichioc	Deurop	7 0.01.00	, 1 -	1	- 1	http://sens	elab.me olab.me	d usla	edu/Modell	Blebowr	nodel as rodel as	p:mode p?mode	l= 13590	12
28	Hippy	ocar	7400	stdout tyt	neuparame	(ersicorii	i.dat,onar	laci negpara	mosinit boc	Deurop	7 0.01.00	1 -	1	- 1	http://sens	elab.me olah me	d usla	edu/Modell)B/showr	nodel as nodel as	p?mode p?mode	si= 100000 si= 7400) <u>c</u>
29	Later	ral de 1	116094	DendroDe	odriticlobibi	tion/Long	Dendrite/f	ia1bda dat De	mosinit hoc	Deurop	7 0.01.00	, 1 -	1	- 1	http://sens	olab me	d usla	edu/Modell	Blebowr	nodel as	p?mode	J= 11609	4
30	Loca	aluar	33975	locstenne	rf/wb96fia3;	a-Satol d	at	ig ibde. dat, be	mosinit hoc	Deurop ¹	7 0.00.30	1 1	1	1	http://sens	elab.me	d uale	edu/Modell	B/showr	nodel as	p?mode p?mode	al= 33975	5
31	Meck	hani 1	138321	nashut201	11/OneDime	nsion/Nei	uronlev tvt		mosinit hoc	Deurop ⁻	7 0.00.00	, 1	1	1	http://sens	olab me	d usla	edu/Modell	B/showr	nodel as	p?mode	J= 13832	ਸ਼ੇ
32	Medi	ial ve	53876	muns/diad	nostics/par	ermodel	comparis	tyt soc	mosinit hoc	Deuton ¹	7 0.01.00	, 1 1	1	1	http://sens	elab me	d uale	edu/Modell	B/showr	nodel as	p?mode	l=53876	8
33	Nerv	e ter	10360	stdout tst	nostosipap	, chino de <u>c</u>	_00111041104	5115.414	mosinit hoc	Deuton -	7 0.01.00	, 1 1	1	- 1	http://sens	elab me	d uale	edu/Modell	B/showr	nodel as	p?mode	l= 10360	í
34	Netw	orkr 1	35903	Recruitne	t/recruitcon	n.dat.Re	cruitnet/dif	ferent recruito	recruit.hoc	neuron	7 0:01:00) 7	1	1	http://sens	elab.me	d.vale	.edu/Modell	DB/showr	nodel. as	: : : : : : : : : : : : : : : : : : :	l=13590	3
35	Nigra	aldor	112359	modeldb-e	etoh/x1e0p\$	9927.dat	.modeldb-e	etoh/x2e0p99	i mosinit.hoc	neuron	7 0:01:00		1	1	http://sens	elab.me	d.vale	.edu/Modell	DB/showr	nodel.as	p?mode	l= 11235	.9
36	Olfac	ctory 1	27995	mialiore20)10/weight-f	orfia3-bu	lb1.dat		mosinit.hoc	neuron	7 0:01:00	1 7	1	1	http://sens	elab.me	d.vale	.edu/Modell) B/showr	nodel.as	p?mode	l=12799	35
37	Olfac	ctory	114665	plast/2mt-	s1-w05-w0	0-e2i3-ir	1220.txt.pl	ast/2mt-s2-w	(mosinit.hoc	neuron	7 0:01:00) 1	1	1	http://sens	elab.me	d.vale	.edu/Modell	DB/showr	nodel. as	: : : : : : : : : : : : : : : : : : :	l=11466	5
38	Olfac	ctory	97263	, MT-GC/cc	oeff-table.tx	at in the second s			mosinit.hoc	neuron	7 0:01:00) 1	1	1	http://sens	elab.me	d.vale	.edu/Modell) B/showr	nodel.as	; p?mode	l=97263	3
39	Olfac	ctory 1	46030	oconnoret	tal2012/Cell	Positions	.dat,oconr	noretal2012/El	e init.hoc	neuron	7 0:02:00	1	1	1	http://sens	elab.me	d.yale	.edu/Modell) Bishowr	nodel. as	p?mode	l=14603	30
40	Olfac	ctory	2730	bulbNet/ta	abchannels.	dat			mosinit.hoc	neuron ¹	7 0:01:00	1	1	1	http://sens	elab.me	d.yale	.edu/Modell) B/showr	nodel. as	p?mode	l=2730	
41	Rats	subtł	74298	sth-model	l/sth-data/tr	ee0-nom	n.dat,sth-m	odel/sth-data	a sample.hoc	neuron	7 0:04:00	1	1	1	http://sens	elab.me	d.yale	.edu/Modell)B/showr	nodel.as	p?mode	1=74298	8
42	Reco	ordin	84655	oltedal/gsy	ynth_10ms_	.dat,olted	dal/gsynth.	_1msdat,olte	e mosinit.hoc	neuron	7 0:01:00	1	1	1	http://sens	elab.me	d.yale	.edu/Modell) B/showr	nodel.as	: p?mode	l=8465	5
43	Reso	onan 1	47539	Chirp/Outp	put/ChirpGh	10.00.ts_	«t,Chirp/Ch	irpl.txt	mosinit.hoc	neuron	7 0:01:00	1	1	1	http://sens	elab.me	d.yale	.edu/Modell) B/showr	nodel. as	p?mode	el= 14753	39
44	Ribb	on S	50997	Ribbon/bp	o.dat				mosinit.hoc	neuron	7 0:01:00) 1	1	1	http://sens	elab.me	d.yale	.edu/Modell)B/showr	nodel.as	p?mode	l=50991	7
45	State	eand 1	44526	stdout.txt					mosinit.hoc	neuron	7 0:01:00) 1	1	1	http://sens	elab.me	d.yale	.edu/Modell)B/showr	nodel.as	p?mode	l=14452	26
46	STD-	-dep 1	44523	LuthmanE	tAI2011/Out	putDCN_	soma_1s_	ap.dat,Luthm	a mosinit.hoc	neuron	7 0:01:00) 1	1	1	http://sens	elab.me	d.yale	.edu/Modell)B/showr	nodel. as	p?mode	el= 14452	23
47	Upda	ated	93325	nfrost/burs	sts.txt,nfrost	lsyndefs	/C2_DRI.tx	t,nfrost/synde	l mosinit.hoc	neuron ⁻	7 0:01:00	1	1	1	http://sens	elab.me	d.yale	.edu/Modell)B/showr	nodel. as	p?mode	l=93325	5
48	CA1	-	106551	stdout.txt					Neuron1.hoc	neuron7	0:01:00) 1	1	1	http://sens	elab.me	d.yale	.edu/model	db/showπ	nodel.asj	p?mode	l=10655	1
49	"Mod	delin i	136310	ourr.dat					mosinit.hoc	neuron7	0:02:00) 1	1	1	http://sens	elab.me	d.yale	.edu/model	db/shown	nodel. asj	p?mode	l=136310	3
50	Sync	chro 1	44054	weight_sn	apshot.dat				src/parinit.hoc	neuron7	0:03:00) 1	1	1	http://sens	elab.me	d.yale	.edu/model	db/showπ	nodel.as	p?mode	l=14405	4
51																							





data to the NIF webpage, we created a user guide to document the process of running models through the NSG Portal.

If you do not already have an account, fill out the form and email it to nsghelp@sdsc.edu

NIF Home myNIF Neuro	lex Search Recom	mend a Resource					Login	Register Tutorial	Help				
NIF	search for (e.g., cerebellum, "pulvi *	nar nucleus")						A Q					
Data (464,889,396) Model Run (49) Literature (22,539,160) Registry (6,241) Eventing (000)	Model Run: Models Source Options The Model Run is a data set of output of neuron models through the Trestles supercomputer. More Information on Model Run Displaying results 1 - 20 out of 49 total results. Source Options												
Web (∞)	Model ID 🔍 🔩	Model Name 🛛 🔍 🖨	Outputfiles	Mainfile 🔍 🖨	Programversion	Timetaken 🔍 🖨	Cores	Nodes 🔍	•				
Hide search filters	113732	MEG of Somatosensory Neocortex (Jones et al. 2007)	supathresh.dat	batch.hoc	neuron 7.3	33 min	1	1					
cores [-] 1 (46)	144570	Large scale model of the olfactory bulb (Yu et al., 2013)	spk001-15.dat	parinit.hoc	neuron 7.3	1hour 40 minutes	10	24					
Login or create an account to save searches!	124513	Dentate gyrus (Morgan et al. 2007, 2008, Santhakumar et al. 2005, Dyhrfjeld-Johnsen et al. 2007)	spikerast.txt, numCons.dat	run50knet.bash	neuron7.3	1min	1	1					
	135838	Action potential reconstitution from measured current waveforms (Alle et al. 2009)	Alle_et_al_2009/gCa.dat, Alle_et_al_2009/gK.dat, Alle_et_al_2009/gNa.dat	reconstitution.hoc	neuron 7.3	25 seconds	1	1					
	112834	Afferent Integration in the NAcb MSP Cell (Wolf et al. 2005)	nacb_msp/stimxout_jns_sq wave.dat	mosinit.hoc	neuron 7.3	30 seconds	1	1	4				
	74298	Rat subthalamic projection neuron (Gillies and Willshaw 2006)	sth-model/sth-data/tree0- nom.dat, sth-model/sth- data/tree1-nom.dat	sample.hoc	neuron 7.3	4min	1	1					
	123815	Encoding and retrieval in a model of the hippocampal CA1 microcircuit (Cutsuridis et al. 2009)	stdout.txt	HAM_StoRec_par.hoc	neuron7.3	6min	1	1					
	7400	Hippocampus temporo- septal engram shift model (Lytton 1999)	stdout.txt	mosinit.hoc	neuron 7.3	1min	1	1					

Many scientists lack the machines to run computational models due to their high demand of processing power. The NSG project has allowed us to utilize the Trestles supercomputer to quickly and efficiently run models. The outputs were made easily accessible to scientists via the NIF webpage; nearly four hundred models from the Model DB website are now accessible, and hopefully, this project will continue as more and more models will be added and made available to the public.

Awknowledgements **Team Members**: Daniel Guan **Mentors:** Subhashini Sivagnanam, M.S Amit Majumdar, B.S, Ph.D Anita Bandrowski, Ph.D