

Supplementary Material for

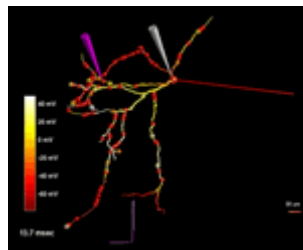
bmm225: Simulating *in vivo*-like Synaptic Input Patterns in Multicompartmental Models

by Jeremy Edgerton

Department of Biology, Emory University, Atlanta, GA, USA; email: jedgert@emory.edu

Reference: This supplementary material belongs to the BMM article:
Edgerton J (2005). Simulating *in vivo*-like Synaptic Input Patterns in Multicompartmental Models. Brains, Minds and Media, Vol.1, bmm225 (urn:nbn:de:0009-3-2256).

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[Article Resources](#)

[GENESIS Resources](#)

[Datasheet](#)

Article Resources

- View [Simulation Movie](#)
- View [Sample Source Code](#)

GENESIS Resources

- View [GENESIS Homepage](#)
- Download [GENESIS 2.2.1 for Windows](#)
- Download [GENESIS 2.2.1 for Linux](#)
- Download [Modeling Tutorials for Windows](#)

- Download [Modeling Tutorials for Linux](#)
- View [Installation Guidelines](#)
- View the [GENESIS Reference Manual](#)
- View or download [The Book of GENESIS](#), second edition, free internet pdf-version.

Supplementary material datasheet

Overview

- Title: Simulation Movie
- Description: The movie shows a model globus pallidus neuron being driven to spike by synaptic inputs. There are 100 excitatory inputs (represented as spheres on the dendrites) and 1024 inhibitory inputs (not shown), each activated randomly. Excitatory synapses activate when their color changes from red to white. The membrane potential of each compartment is presented in pseudocolor, showing that action potentials initiate in distal dendritic compartments and propagate to all regions of the model neuron. Near the end of the movie (approximately 94 msec on the simulation timer), a spike initiates in a thin dendrite but fails to propagate past the first branch point it reaches, suggesting that branchpoint failures may be important components of dendritic integration in the model.
- Language: english
- Author: Jeremy Edgerton
- Contributors: Jesse E. Hanson, Cengiz Gunay, Dieter Jaeger
- Affiliation: Department of Biology, Emory University, Atlanta, GA, USA
- Creator: Author
- Publisher: Author
- Source: Author
- Rights: Author

Application

- Application context: research and education
- Application setting: talk, tutorial
- Instructional use: can be used for illustration
- Time: 33 sec
- Resource type: video
- Application objective: realistic neural modeling

Technical

- Required applications: Media Player or Quicktime Player or the like
- Required platform: any
- Requirements: 1 GHz Processor, 256 MB RAM, 15MB free disk space (rec.)
- Archive: active-1000frames-20Hz.avi
- Target-type: Zip-File
- Target: any

Requirements and setup instructions

- Copy the file to any location on your harddisk.
- Double click the movie file. If an appropriate player is installed, it will open the movie. If not, you should install a movie player for avi-movies.

Application instructions

- execute

