September 2024 Modeling Software Updates

Find us at SfN 2024 in Chicago!

Come chat with us about modeling at posters, the minisymposium on Large-Scale Mechanistic Models of Brain Circuits, the Neuroscience Gateway workshop, and Allen Institute **booth #1301** (modeling office hour at the booth is on 10/8 at 10-11 am, but feel free to stop by any time).

Visit our website for more details ▶

Conference on AI and Modeling in Biology on 9/23-9/25

We will livestream the upcoming workshop "Data-Driven Discovery: AI and Modeling in Biology" organized by Anton Arkhipov (Allen Institute), Tatiana Engel (Princeton), Michael Brenner (Harvard/Google), and Stephen Saalfeld (Janelia). Hosted by the Allen Institute on September 23-25, 2024, the meeting brings together experts who will discuss how problems in biology are being solved using recent developments in both AI and modeling.

View the agenda and link to the livestream ▶

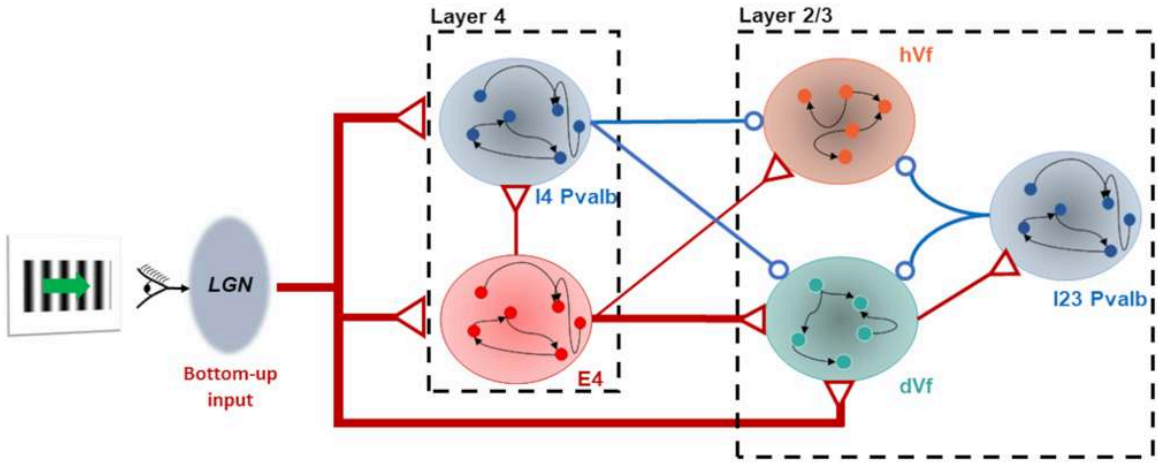
Shanahan Foundation Fellowship applications due December 16

The Shanahan Foundation Fellowship at the Interface of Data and Neuroscience is once again welcoming applications. The fellowship encourages new PhDs from outside of neuroscience to appl their quantitativeskills to our datasets. Earl career-scientists from computer science, ph sics, ath, and man other fields will be selected to join the Allen Institute and UW for a 3- ear fellowship where the will have the freedom to e plore a new field and design their own research project. **Applications are due December 16th, 2024.** Please spread the word to our networks!

Allen Institute Modeling Software Workshop

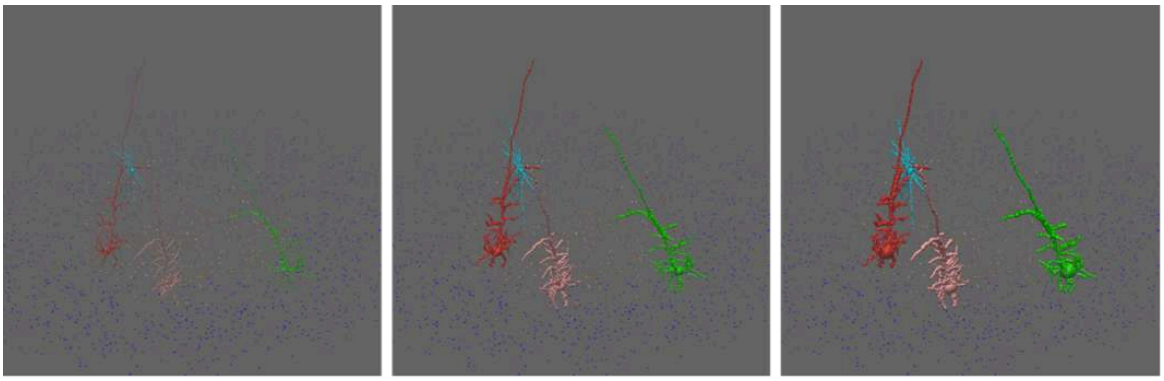
In July, we hosted the 3rd Annual Modeling Software Workshop here at the Allen Institute in Seattle, where attendees explored the latest features of BMTK, SONATA, and VND. Thanks to all who joined us for making it such a vibrant, engaging event!
Check out the **workshop videos** and **tutorials**.

New paper published in PLOS Computational Biology



In a new paper published in collaboration with Javier Galván Fraile and the labs of Profs. Claudio Mirasso and Wolfgang Maass at the University of the Balearic Islands and Graz University of Technology, the Allen Institute's model of mouse V1 was used to simulate the mechanisms of opposing cortical responses to visual flow perturbations.

Cell morphology scaling in VND



VND now offers diameter scaling for all cell morphology drawing styles. Individual neurons can be seen when zooming out to display larger model systems, with essential morphology, branching, and relative widths preserved. Combined with scalable display of soma spheres, multiple elements and regions of models can be highlighted.

New custom spiking inputs in BMTK

We have expanded BMTK's ability to generate spiking inputs, allowing modelers to effortlessly run simulations under various conditions. Along inputs in CSV, NWB and SONATA formats, users can also use existing functions, or write their own functions for generating spiking inputs in a rigorous manner.

Please contact education@alleninstitute.org with any questions.

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