Modeling the effects of molecular crowding on cerebellar long-term depression

Our goal is to understand how intracellular content affects the biochemical pathways underlying cerebellar long-term depression.

We implemented a Monte Carlo simulation of cerebellar long-term depression based on a previously published mass-action model.

- We ran simulations with reduced volume to compare the effects of volume reduction with the changes in LTD caused by crowding.
- Crowding increases LTD magnitude and decreases the activation threshold.
- Volume reduction has similar effects, but also causes earlier maximal LTD to occur.

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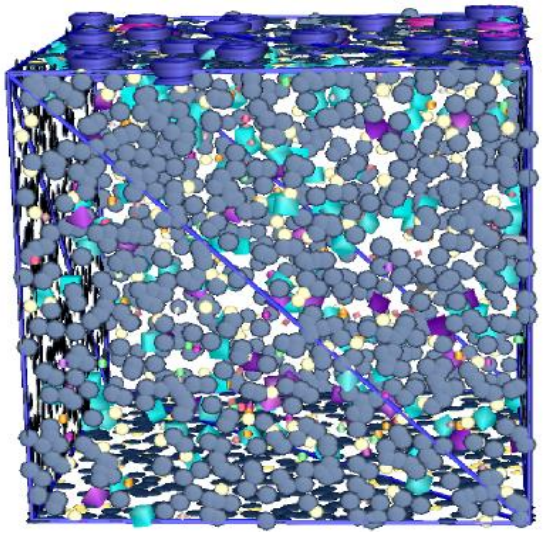

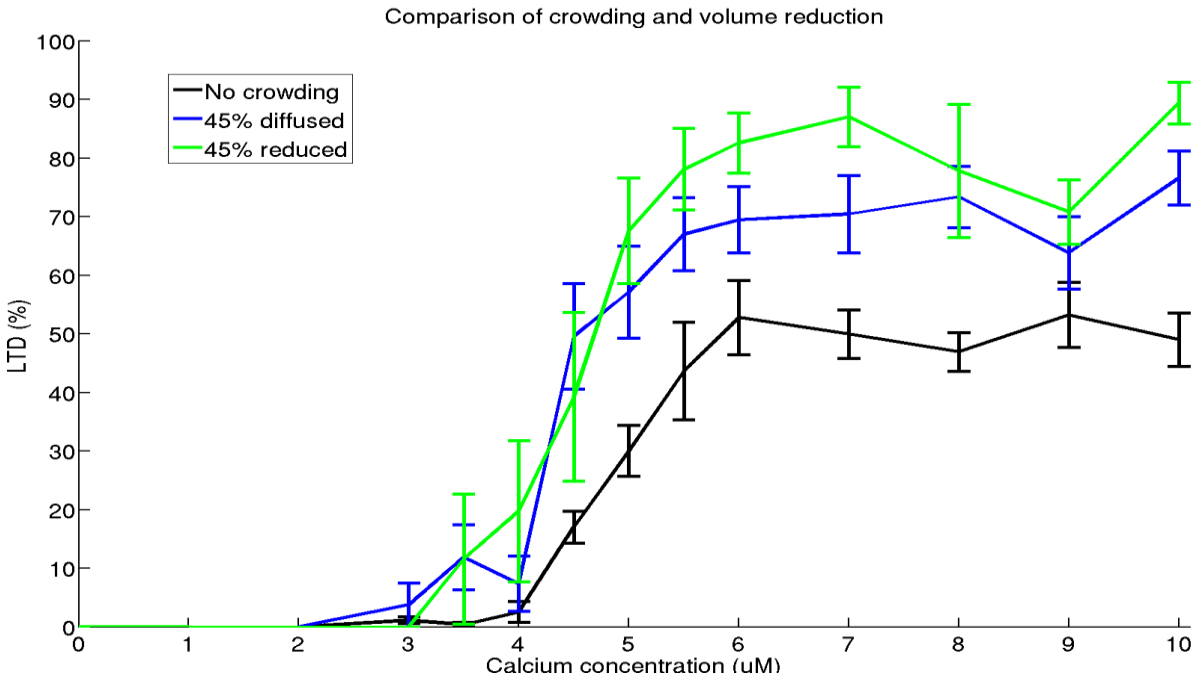

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