

Abstract Submitted
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Axon growth and dynamics in 3D collagen gels¹ RYAN MCALLISTER, WILL ROSOFF, JEFFREY URBACH, Georgetown University — Living cells exhibit importantly different morphology and behavior in 3D hydrogels than on 2D substrates, but there have been very few studies of the dynamics of axons growing in 3D environments. To compare shape and outgrowth behavior of neuronal cells in 2- and 3D, we have developed a live-cell imaging apparatus using a spinning-disk confocal microscope. We compare growth cone cytoskeletal dynamics in fluorescently transfected neuronal cell-lines growing on a coated glass coverslip with those growing in a collagen matrix. We will describe some of the experimental challenges and our results (movies) to date.

¹Work done in collaboration with Herb Geller's lab at NIH and Josef Kas' lab at U. Leipzig.

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