VEGF

**Experiments**

1. VEGF transplants statics
   1. Statics of VEGF transplants adj to trailing portion of the stream
   2. Statics of VEGF transplants into trailing portion of the stream
   3. Show control transplants as well
2. VEGF transplant timelapse (videos of cells crawling towards transplants)
3. Molecular profiling
   1. Trailing NC cells that are in or around VEGF transplant when placed adjacent to trailing
   2. Trailing and lead NC cells from r4 stream
4. Remove VEGF from lead portion of stream
   1. Np-1 knockdown then molecular profiling
   2. Injections of sVEGFR1 then molecular profiling
5. Remove VEGF from trailing portion of stream
   1. Removal of VEGF from ectoderm
      1. VEGF MO and Control MO statics
      2. Analysis
   2. Removal of VEGF from mesenchyme
      1. Soluble VEGFR1 added into trailing portion
      2. Analysis
6. Influence of microenvironment on lead and trailing profiles
   1. In vitro gene profiling of lead and trailing
7. Integrate and switch

**Modeling**

1. Manipulating VEGF production
   1. Increasing VEGF as a thin line at 12 hour timepoint to represent adj to trailing portion
   2. Increasing VEGF within trailing portion
2. Something showing increased trailing to lead switch when VEGF presented to trailing stream (leaders are not typically sprinkled throughout stream)
3. Simulation of no VEGF present but adding a bunch of cells into the domain at t=0 and see how they spread out
   1. Is it like the Np-1 siRNA pheno?
4. Simulation showing what happens if 50% of cells in lead portion no longer respond to VEGF
   1. Our Np-1 siRNA does not affect all cells in stream
5. Simulations showing difference in migration depending on what the default cell type is- without VEGF is default leader, trailer or something in between?