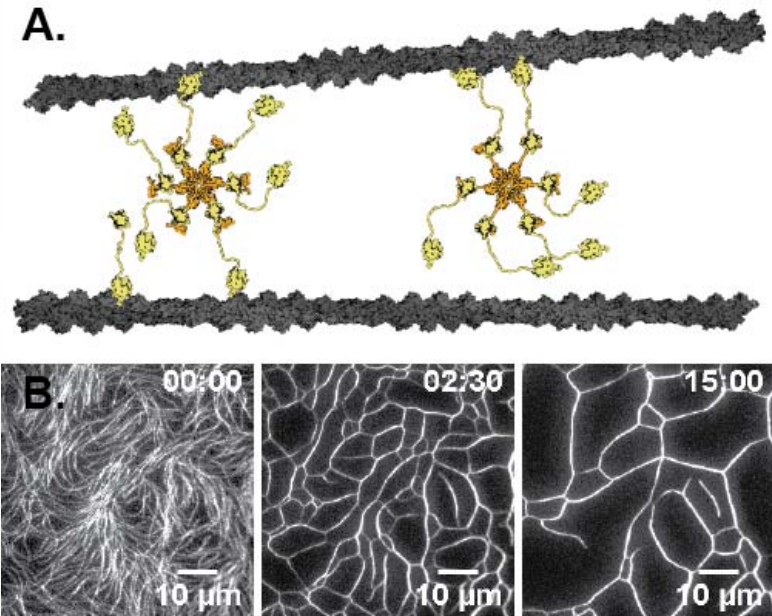


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One of the goals of the MRSEC is to develop new active materials built from biomaterial components. The investigators have now made a truly macroscopic (millimeter sized) 3D contractile active gel composed of actin crosslinked with the hexameric Srv2/Abp1 complex, that coarsens an entangled network of actin into a cellular foam like network. This actin scaffold is being combined with PRC-crosslinked extensile microtubule bundles to make a truly multicomponent composite active material with both contractile and extensile activity. Theoretical analysis is ongoing to understand the coarsening dynamics of the actin scaffold in the presence of the Srv2/Abp1 complex.



(A) The hexameric structure of the Srv2/Abp1 actin crosslinker allows for non-canonical interactions. (B) Actin filaments are confined to a 2d interface re-organized by Abp1/Srv2 into a coarsened cellular network.