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Developing biomaterials for brain regeneration

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I had a grandmother who passed away at 65 due to an aggressive, incurable neurodegenerative condition which shares some similarities with the more commonly known Parkinson's disease. This inspired me to actively pursue research in the field of tissue engineering, to help develop novel therapies for patients with limited treatment options. My project is focused on developing biomaterials for brain regeneration. More specifically, I am working on developing a scaffold fabricated from extracellular matrix, the natural framework that is present in all tissues in the body. This scaffold, derived from brain tissue, can be used to support the growth and expansion of brain stem cells, which have the capability to specialize into different cell types of the brain. These cells can eventually be delivered to the patient to promote regeneration in the damaged areas of their brain, and hopefully reverse the effects of neurodegenerative disease.