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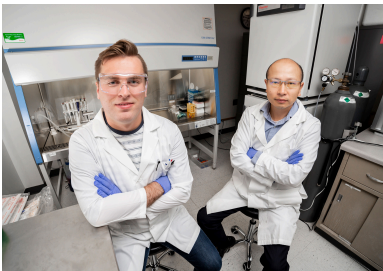
# Combating Alzheimer's with 3-D Engineered Neuro Tissue | College of Engineering

10/25/2018

## Biological engineers develop tools and techniques to uncover novel drugs for neurodegenerative diseases

*Published in [Utah State Engineer](#)— Oct. 25 2018 —* Biological engineers at USU are developing new tools to combat the debilitating effects of Alzheimer's and Parkinson's disease and other brain disorders. Graduate student Gregory Jensen and Assistant Professor Yu Huang are using 3-D tissue engineering to develop drugs that combat neurodegenerative diseases.

"One of the problems we're addressing is inflammation," said Jensen. "Neurodegenerative diseases cause inflammation in the central nervous system which leads to permanent neural damage and subsequent problems."



*Biological Engineering graduate student Gregory Jensen and assistant professor Yu Huang are developing new ways to use engineered materials to screen for new drug therapies.*

Researchers believe the inflammatory response is a key force behind the progression of neurodegenerative diseases.

"This is why we're focusing on better understanding anti-inflammatory compounds," said Huang. "We need to find more effective anti-inflammatory agents and better

methods to deliver them to sites where neuroinflammation and degradation are taking place."

The team uses an engineered substrate material that allows cells to grow in a 3-D structure. The approach mimics normal cell growth in the human body.

"3-D tissue engineering is also useful for localized drug delivery," said Jensen. "3-D tissue constructs can be engineered to match specific tissue types and can be loaded with a desired pharmaceutical compound that can be delivered to a precise location."

The team recently published new findings about their pharmaceutical science research in the journal *Acta Pharmaceutica Sinica B*.

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