

# UW-Madison researcher getting \$2.2 million NIH award

Posted on Wednesday, Oct 3, 2018

A UW-Madison researcher is getting \$2.2 million from the National Institutes of Health, supporting his efforts to understand how protein dysfunction can lead to cancer and other diseases.

Srivatsan Raman is an assistant professor of biochemistry who also works with the university's department of bacteriology and the Great Lakes Bioenergy Research Center.

This NIH funding is through the Director's New Innovation Award, which funds "high-risk, high-reward" projects from early stage researchers in the field of biomedical science.

Raman's research focuses on protein allostery, a process of internal communication across individual proteins. When certain molecules interact with certain proteins, a signal is sent out which results in a genetic change.

He calls allosteric proteins "nature's switches," as many genes are activated or deactivated through these proteins.

"However, sometimes they acquire a mutation that causes the switch to be permanently on or off when it shouldn't be," he said. "This dysfunction is responsible for many diseases, including cancer, because activities inside a cell are no longer regulated."

Raman says these proteins are popular drug targets, due to their key role in regulating vital processes for life. He says nearly half of all drug targets are allosteric proteins, but the process of allostery itself is still largely unknown.

“So, the thesis of this award is: how does this on/off business work?” Raman says. “Can we figure out the specific amino acids — the smaller units that make up proteins — that allow it to change between on and off?”

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