Tulane researcher gets millions to study adolescent brains and more

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A Tulane University researcher is studying adolescent brain development as part of a $5.9 million grant from the National Science Foundation.

Yu-Ping Wang, an associate professor of biomedical engineering, is joining researchers at the Mind Research Network at the University of New Mexico and the University of Nebraska Medical School in exploring the workings of the brain during the rapidly developing period between 9 and 14 years old.

The goal of the study is to gain a better understanding of brain functions, conceivably leading to earlier diagnosis of mental illnesses such as autism and attention-deficit hyperactive order (ADHD).

The NSF study is part of an initiative called EPSCoR (Experimental Program to Stimulate Competitive Research), which aims to expand science and engineering research in states that have historically been underfunded by the NSF.

"The project is built upon Tulane"s strength in genetics and multi-scale data modeling, which is complementary to the two other states" research on MRI and MEG imaging," said Wang, who also holds positions in the Biostatistics and Bioinformatics, Computer Science and Neurosciences departments at Tulane.

Tulane"s share of the grant is nearly $1.2 million, which will be used to recruit four doctoral students and four undergraduates per year, organize an annual workshop to share its progress and develop a computational neurosciences program.

Wang also received a nearly $2 million grant from the National Institutes of Health, this one connected to the President"s Precision Medicine Initiative, which aims to tailor disease prevention and treatment to individuals based on genetics, environment and lifestyle.

Through this grant, Wang will collaborate with imaging scientists, statistical geneticists, clinical psychiatrists and data scientists to study models for early diagnosis of complex diseases.

"Interdisciplinary collaboration continues to be the key to the success of securing these two grants," Wang said. "The project demonstrates the power of convergence of multiple disciplines including engineering, computational, and mathematical sciences with biology and cognitive science."