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Alzheimer's research at U of L gets significant funding boost

Dr. Athan Zovoilis, Canada Research Chair in RNA Bioinformatics and Genomics at the University of Lethbridge, will continue his groundbreaking research into the molecular mechanisms involved in Alzheimer's disease thanks to a grant of \$918,000 over five years from the Canadian Institutes of Health Research (CIHR).



Zovoilis, director of the Southern Alberta Genome Sciences Centre (SAGSC), and Dr. Majid Mohajerani, co-investigator who holds the Dr. Bryan Kolb Professorship/Chair in Neuroscience, are both members of the Canadian Centre for Behavioural Neuroscience (CCBN). They will combine their expertise in genome sciences and neurodegeneration to help solve the mysteries of Alzheimer's disease (AD).

"The funding landscape is quite competitive and this support from CIHR is a great success for CCBN and SAGSC," says Zovoilis. "With no reliable cure for AD and an aging population, Canada is in great need of interdisciplinary, cutting-edge research on the disease and this funding could help us contribute to the development of new treatments."

"This award demonstrates the exceptional research being done at the U of L," says Dr. Dena McMartin, U of L vice-president (research). "With more than 747,000 Canadians suffering from dementia, research like this is both important and urgent as we work toward medical breakthroughs to slow or cure the disease."

"This grant reflects the quality of the research and synergistic environment at CCBN and its ability through SAGSC to fuse behavioural neuroscience and genome sciences," says Dr. Rob Sutherland, director of CCBN.

In earlier work, Zovoilis and his team found a new molecular mechanism involved in Alzheimer's disease in mice and confirmed the same mechanism is at work in people with the disease. They used high throughput sequencing techniques that study the DNA readout of brain cells to identify a class of biomolecules, called SINE RNAs, that are produced in different patterns in AD patients versus healthy individuals.

Despite having made tremendous strides in understanding AD, many of the underlying molecular processes in the development of AD are still unknown. Mohajerani, an expert in neural dynamics and memory systems, uses cutting-edge optical imaging devices, biosensors and advanced behavioural methods to get a better understanding of how memory becomes impaired in AD. Combined with Zovoilis' expertise in bioinformatics and genome sciences, the team hopes to determine how the increased processing of SINE RNAs is connected to AD by studying the relationship in real time using a mouse model.

"It makes sense to join forces because of our interconnected research and complementary scientific and technical expertise," says Mohajerani.

"It is fundamentally important to understand these early molecular changes in the brain as they may provide a target for therapeutic interventions early in the progression of the disease before significant and irreversible brain damage occurs," says Zovoilis.

This news release can be found online at [Alzheimer's research](#).

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