For Immediate Release — Monday, June 17, 2019

Visiting research professor Dr. Oliver Ernst to present on popular drug target for human disease

WHAT: Dr. Oliver Ernst (University of Toronto) will present a free public talk, *Structure and Dynamics of GPCRs at work: Insights from the Visual System*

WHEN: 11 a.m., Tuesday, June 18, 2019

WHERE: B660, University Hall

The Alberta RNA Research and Training Institute (ARRTI) is delighted to host Dr. Oliver Ernst, Professor in Biophysics, to present his work as part of the ARRTI Speaker Series.

“We are thankful to have the opportunity to host Dr. Ernst as his research clearly demonstrates the connections between the fields of biophysics, biochemistry and neuroscience, all of which are areas of excellence at the University of Lethbridge, and the impact that these connections can have for the health of Canadians. His visit is timely, with the opening of the new Science and Academic Building (SAB) later this year. The SAB has been designed to enable these kinds of trans-disciplinary research activities,” says Dr. Hans-Joachim Wieden, director of ARRTI and assistant dean – Destination in the Faculty of Arts & Science.

G protein-coupled receptors (or GPCRs) comprise the largest and most diverse gene super-family in humans, with over 800 different GPCRs covering around 3 per cent of the protein-coding human genome. GPCRs are expressed throughout the human body and are involved in almost all aspects of human physiology. Mutations in these genes can lead to a variety of human diseases, such as schizophrenia, blindness and cancer. Ernst’s research has contributed to new precision medicine approaches that may help treat these types of diseases.

GPCRs are also a very popular drug target, since in addition to their common presence, they have good druggability, with binding pockets that lend well to the design of drug-like small molecules. In November 2017, it was estimated that around 700 approved drugs target GPCRS — about 35 per cent of all approved drugs. Prominent GPCR

therapies include antihistamines, opioid analgesics, anticholinergics, antipsychotics, antimigraine drugs and antihypertensives.

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