

# SPOTLIGHT ON University of Saskatchewan Veterinary Medicine

Advancing animal health and welfare through research

## From bees and bison to vaccines and medical imaging

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**W**ithin the span of a few weeks this summer, the Western College of Veterinary Medicine (WCVM) had direct links to three major research announcements on the University of Saskatchewan (USask) campus.

First, the WCVM introduced veterinary pathologist Dr. Sarah Wood as the university's first Pollinator Health Research Chair, a new role established with \$750,000 from agricultural stakeholders. Next, the university's Vaccine and Infectious Disease Organization (VIDO) opened its multi-million-dollar Vaccine Development Centre—the first step in establishing VIDO as Canada's Centre for Pandemic Research.

Two weeks later, a team led by WCVM professor Dr. Gregg Adams received \$5.1 million from Genome Canada for the Bison Integrated Genomics (BIG) project that is aimed at developing the world's first bison genome biobank. BIG is linked to a \$17-million-dollar initiative called IntegrOmics (Integrated Omics for Sustainable Animal Agriculture and Environmental Stewardship), funded by the Canada Foundation for Innovation, the Government of Saskatchewan, and other agencies.

These announcements reflect the diversity of the college's research program. To support these exciting research activities, the WCVM collaborates with USask organizations offering advanced technologies, expertise and specialized facilities in one geographic location.

**Vaccine development**—VIDO, a world leader in infectious disease research and vaccine development, has close ties to the WCVM that serves as the academic home for VIDO scientists and graduate students. VIDO's successes include vaccines against calf scours and shipping fever in cattle, enteritis in turkeys, and pleuropneumonia in pigs. VIDO is also at the forefront of Canada's response to COVID-19: it was the first in Canada to isolate the SARS-CoV-2 virus, the first in Canada to develop a disease animal model, and the first Canadian university organization to have a COVID-19 vaccine in human clinical trials.

**Livestock health**—the Livestock and Forage Centre of Excellence (LFCE) brings together scientists and stakeholders to support innovative livestock and forage research, extension, and student training. WCVM research teams conduct LFCE-based studies targeting health topics in beef



A bison cow and calf at the USask Livestock and Forage Centre of Excellence. Photo: Christina Weese.

cattle, horses, bison, and pollinators. WCVM researchers are also collaborating with on-campus and external colleagues on major studies including the \$5.6-million Genomic ASSETS (Antimicrobial Stewardship Systems from Evidence-based Treatment Strategies) project and the IntegrOmics project, which will help to conserve bison species and address challenges facing the cattle industry.

**Medical imaging**—the WCVM has significantly expanded its medical imaging resources in the last decade. Key developments include two new WCVM-based research chairs—one in imaging sciences and the other in comparative oncology. In 2019 the WCVM installed a PET-CT unit that is used for clinical animal cases and for research in animal and human health. The Saskatchewan Centre for Cyclotron Sciences and the Canadian Light Source—Canada's only synchrotron—are also steps away from the WCVM.

The WCVM's vital collaborations with these unique USask organizations are having a meaningful impact on the college's research initiatives in animal health as well as in the areas of public health, food safety, environmental stewardship, and sustainability.

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