



Lori Chalmers Morrison, Associate Director
 Communications, Wilfrid Laurier University
 519-884-0710 ext. 3067 or lchalmersmorrison@wlu.ca

AUG. 12, 2019 | 098-19

Laurier researchers receive federal funding for labs investigating crime analysis and impact of green buildings

WATERLOO – Wilfrid Laurier University researchers are receiving federal funding toward the creation and enhancement of two innovative lab spaces – one that will simulate the work of crime analysts and one that will track environmental measures and human behaviour in a green office building.

[Carrie Sanders](#), an associate professor of criminology, is developing a crime and intelligence analysis lab and [Manuel Riemer](#), a professor of psychology, is developing a living lab for the optimization of green building performance. Both projects are being funded through the Canada Foundation for Innovation's (CFI) [John R. Evans Leaders Fund](#) (JELF).

"This funding will help Laurier researchers develop groundbreaking insights about how crime and intelligence analysts work and how people's experiences of green buildings may affect the buildings' sustainability performance," said **Jonathan Newman**, Laurier's vice-president: research. "Their leading-edge work will answer important questions about how big-data technologies and data analytics can be used ethically in policing and security services, as well as about how to close the gap between the built potential of sustainable buildings and actual performance."

Sanders is receiving more than \$50,000 to set up a **Craft of Intelligence Analysis Lab**. The lab will simulate a criminal intelligence analysis unit and will be equipped with powerful computers, large monitors, analytical software and other tools. The lab will also have cameras and microphones to record the analysts' activities.

"Data analytics and big data technologies are playing a progressively more important role in public safety and security industries," said Sanders, who is director of Laurier's [Centre for Research on Security Practices](#) (CRSP). "These technologies promise opportunities for police and security services to work more efficiently and effectively by using data to identify and predict crime patterns and security threats. However, many citizens are concerned that the use of such technologies may be detrimental to individual privacy and civil rights. Given the pace of technological change, there is an urgent need to investigate the way these technologies are used."

Because conducting studies in real crime and intelligence analysis units is difficult due to privacy and security concerns, practicing analysts, who vary widely in their backgrounds and job descriptions, will be brought into the lab to work on fictional but representative scenarios such as identifying suspects in a sexual assault. In addition to being recorded as they work, the analysts will be interviewed after completing the scenarios.

"There is currently little research on how data technologies are used in Canadian policing environments, even though the process of anticipating risk is fraught with practical and ethical concerns that become hidden by non-transparent algorithms," said Sanders. "This lab will examine and uncover the processes by which intelligence analysts identify and categorize risks, as well as how they use technologies and analytic practices. Ultimately, it will explore how big data can be used fairly and effectively in the production of intelligence."

...more

Riemer is receiving nearly \$60,000 to enhance a “living lab” in [Evolv1](#), Canada’s first commercial multi-tenant office building designed to be net-positive energy and carbon neutral. Riemer is director of Laurier’s [Viessmann Centre for Engagement and Research in Sustainability](#) (VERiS), located in **EvolvGREEN**, an innovation hub within the Evolv1 building, which is owned and operated by the Cora Group. He and his research partners previously secured nearly [\\$1 million in provincial funding](#) and close to \$200,000 from the Social Science and Humanities Research Council of Canada for their research into closing the green building performance gap.

While it is often assumed that green buildings improve the well-being and productivity of employees working in these buildings, previous research, including a study by Riemer and his colleagues, found that this assumed positive effect is not consistently present.

“The ways different aspects of green buildings contribute to well-being need to be better understood,” said Riemer. “To address this, we have started to install sensors that objectively measure indicators such as light exposure, noise and air quality. We will also conduct surveys on people’s experiences, well-being and health. This will allow us to conduct unprecedented analysis of the complex relationships between measured conditions in green buildings and the occupants’ experience over time. This also includes indicators of occupants’ pro-environmental behaviours, such as waste diversion and use of elevators versus stairs.”

The sensors are provided by Waterloo company **elevelnX**, which provided matching funding for the study.

In collaboration with Laurier researchers [Noam Miller](#) and [Simon Coulombe](#), Riemer also plans to anonymously track how different types of collaborative workspaces are being utilized by employees in their day-to-day work. This data will be linked to survey answers on occupants’ sense of community and well-being.

“The long-term goal is to understand how green buildings’ performance can be optimized to produce well-being, collaboration and engagement in pro-environmental practices,” said Riemer.

Federal Minister of Science and Sport **Kirsty Duncan** announced the national infrastructure and equipment funding on Aug. 12. In total, the federal government is spending more than \$61 million to support 261 projects at 40 universities across Canada.

Learn More

- [Government of Canada invests in cutting-edge tools for universities](#) (Canada Foundation for Innovation news release)