

Technology aims to let you take a hike - with friends across the country

IMAGE: Simon Fraser University Professor Carman Neustaedter Is Developing Technology That Will Enable Families And Friends To Join In Activities Across The Miles.



Carman Neustaedter, a professor in the School of Interactive Arts and Technology (SIAT) at SFU's Surrey campus, is studying how next-generation video communication systems can connect family and friends over distance, and beyond what's possible with Skype or FaceTime. His team is working to create futuristic mobile video communication systems that can unite far-off friends and family in outdoor activities.

"Sometimes we want to do more than just talk; our systems will let two people enjoy a bicycle ride together over distance, share a hike, or go for a run with a loved one, where it feels like you are in the same place at the same time, despite living far apart," says Neustaedter.

Neustaedter is one of more than 50 SFU faculty researchers benefiting from new Natural Sciences and Engineering Research Council (NSERC) funding, totaling nearly \$11 million.

The funds provide \$8.4 million for 44 new five-year Discovery grants to aid ongoing research programs and seven new Research Tools and Instruments grants; \$720,000 for six new accelerator supplements (each worth \$40,000 annually over three years); and \$1.86 million for student scholarships and post-doctoral fellowships.

"This funding from NSERC supports a diverse array of fundamental research from six faculties," says SFU VP Research Joy Johnson. "In future, this work may lead to discoveries or applications with impact far outside of scientific circles. For now, it adds to SFU's vibrant, research-intensive culture that stimulates students to learn, engage, and innovate."

Neustaedter and his SIAT colleague, Alissa Antle, have both received accelerator supplements. The additional funds are given to selected holders of Discovery grants to "accelerate progress and maximize the impact of superior research programs."

Antle, who was inducted to the Royal Society of Canada College in 2015, studies issues related to EEG-based neurofeedback brain-computer interfaces and self-regulation for young children. The work will shed new light on how to design and evaluate interactive technologies for children to support social-emotional development.

SIAT director Thecla Schiphorst says garnering two accelerator grants is "indicative of the scale of research underway in SIAT, and the innovative ways our researchers are using technology to improve lives in today's world."

Others to receive accelerator supplements include:

Greg Mori, computing science professor, who is pushing technology that will help improve how computers "see";

- Christopher Beh, molecular biology and biochemistry professor, who studies cell growth, and how lipids like cholesterol are directly transferred at sites where internal membranes come in direct contact with one another;
- Joan Hu, statistics professor, who is developing new methods for statistical modeling that circumvent conventional statistical tools' challenges and limits, in cases where data is complex;
- Woo Soo Kim, mechatronics systems engineering professor, who studies 3-D printable material generation and is adding two high-end printers to his lab's arsenal.

The funding is part of NSERC's announcement today of \$465 million for more than 4,000 awards through its 2016 competition for discovery research programs.

About Simon Fraser University

As Canada's engaged university, SFU is defined by its dynamic integration of innovative education, cutting-edge research and far-reaching community engagement. SFU was founded 50 years ago with a mission to be a different kind of university--to bring an interdisciplinary approach to learning, embrace bold initiatives, and engage with communities near and far. Today, SFU is Canada's leading comprehensive research university and is ranked one of the top universities in the world. With campuses in British Columbia's three largest cities - Vancouver, Burnaby and Surrey - SFU has eight faculties, delivers almost 150 programs to over 35,000 students, and boasts more than 135,000 alumni in 130 countries around the world.

Original Article: https://www.eurekaalert.org/pub_releases/2016-06/sfu-tat062316.php