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## FUTURISTIC DISPLAYS AND ENVIRONMENTAL FINGERPRINTING

### *\$1.2 million for cutting-edge research*

Two University of Manitoba professors will receive a combined \$1,226,640 for research over the next three years—one is developing see-through display devices and new software to track data, the other aims to improve water quality.

The Natural Sciences and Engineering Research Council of Canada (NSERC) announced funding today for two projects led by Pourang Irani, founder of the internationally recognized Human-Computer Interaction laboratory, and one project led by David Lobb, an expert in watershed systems.

Through the Strategic Project Grants program, the funding supports early-stage projects and aims to encourage collaboration among academic researchers, industry and government partners. The goal of these grants is to increase research and training in areas that could strongly influence Canada's economy, society or environment in the next decade.

"These partnerships demonstrate how the NSERC community can rise to the challenge and lead projects that directly impact the communities where they live and work," said NSERC president Suzanne Fortier. "We received a large number of very high quality submissions, and the peer review committees evaluating them were impressed with the excellence of the research teams, the importance and potential impact of the proposed research, and the strong support from partners."

"Both of these individuals are leaders in their fields. They are shining examples of the high calibre of researchers we have here at the University of Manitoba," said Digvir Jayas, vice-president (research and international) and Distinguished Professor at the University of Manitoba. "I congratulate them both and look forward to following their progress in these innovative and relevant projects."

**Pourang Irani (computer science, Faculty of Science)** will receive \$293,970 to investigate the use of see-through displays. Such leading-edge devices are already being used by stores where an interactive touch screen allows shoppers to browse product images and purchase with their fingertips, all through their store-front display window. His research project will be one of the

first to examine the design and technical challenges of supporting multiple users—rather than just one—and their interactions with objects behind these large transparent displays. His work is timely given firms such as Samsung are considering how to bring this technology to consumers. Such advances have the potential to transform how we interact and get access to information.

Irani will also receive \$408,750 to develop technology that will make it easier for large organizations, such as hospitals, airports, and nuclear facilities to track daily activities. He will create analytical tools for interactive and visual exploration of large quantities of data generated by sensors. Such software tools will allow for more efficient and cost-effective decision making and will open new research areas in visual data analysis.

**David Lobb (soil science, Faculty of Agricultural and Food Sciences)** will receive \$523,920 to track and source sediments and phosphorous in two watersheds—one in New Brunswick, the other in Manitoba. Agriculture can significantly impact surface water quality, resulting in the contamination of waterways and water bodies downstream. Lobb will use environmental fingerprinting, uncovering the chemical and physical signatures that reflect the origin of a substance. A better understanding of the source of sediments within these ecosystems can lead to the development of better management practices, and ultimately, improved water quality. Lobb is a lead researcher in the cross-faculty Watershed Systems Research Program. This NSERC project is just one of the program's many initiatives.

*NSERC is a federal agency that supports some 30,000 postsecondary students and postdoctoral fellows in their advanced studies. NSERC promotes discovery by funding more than 12,000 professors every year and fosters innovation by encouraging about 2,000 Canadian companies to participate and invest in postsecondary research projects.*

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