UBC STAR

Survive and Thrive Applied Research

star.ubc.ca

UBC STAR is the Western Canada hub for applied R&D improving human performance in extreme environments.

Noteworthy successes since 2014 launch

$26.9M applied R&D catalyzed

$3.8M equipment and infrastructure investments made

110+ student research opportunities created

100+ private sector partners engaged

Expanding and diversifying research funding from non-Tri-Agency sources

90 funding proposals submitted

62% proposal success rate

$2.2M Department of National Defence-funded advanced materials network

$6.2M Department of National Defence (IDEaS 1B) contracts

$4.5M Industrial and Technological Benefits (ITB) investments

Catalyzing research opportunities that benefit Canadians

- Continuous dialogue with government funding agencies, including PacfiCan.
- Daily tracking of safety and security opportunities to match UBC researchers to R&D competitions.
- Technical support for prototyping, device and materials testing.
- Multi-disciplinary partnership development, project implementation and research development support.

Partnership-driven with 100+ private sector collaborations in B.C. and around the world

- Raytheon
- BAE Systems
- Lululemon
- Arcteryx
- PRE Labs
- Patriot One Technologies
- EPIC Ventures
- Beyond Aerospace
- TANKA
- TerraSense Analytics
- KF Aerospace
- L3Harris
- MDA
- Innovex Engineering
- Arc4dia
- DRDC Centre for Security Science
- DRDC Toronto, Valcartier, Suffield
- Textron
- Apparel Innovation Centre
- Patronus

Convener of research talent from across both UBC campuses and beyond

- UBC Faculty of Management
- UBC School of Engineering
- UBC Irving K. Barber Faculty of Science
- UBC Irving K. Barber Faculty of Arts and Social Sciences
- UBC Faculty of Creative and Critical Studies
- UBC Faculty of Forestry
- UBC College of Graduate Studies

Tailored support for all applied R&D disciplines, including high-impact social research

IDEAS	Proactive deterrence of 'grey' threats	$294,574
IDEAS	Improving CAF veterans' returns to civilian life	$200,000
CIMVHR	Understanding the financial wellbeing of survivors of veterans	$225,769
MINDS	A digitalized community-based CAF recruitment and referral portal	$31,530
MINDS	Grey zone conflict governance and organization	$18,800

Researchers from three Western Canadian universities coming together to discuss the Comfort-Optimized Materials for Operational Resilience, Thermal-transport and Survivability (COMFORTS) network.

We detect hazards to human safety and security. We create protective materials for people, structures and vehicles. We provide decision-support to individuals, business and governments and engage with partners and researchers from all disciplines to create regional opportunities for R&D investment.

HAZARD SENSING

Improving public health

DR. SEPIDEH PAKPOUR, School of Engineering

IDEaS COVID-19 Challenge Competitive Project

Dr. Pakpour and her team are developing a wearable device providing real-time COVID-19 sensing using an integrated rPPG-based screening and sweat-based biosensing approach.

Sensing and tracking threats to national security

DR. ZHENG LIU, School of Engineering

Indigenous-owned partner firm TerraSense was incubated in UBC STAR facilities before expanding to nearby officers where it works with UBC researchers including Dr Jiang Liu. Together we have secured over $4M in DND contract support for development of the Multimodal Input Surveillance and Tracking (MIST) system.

DECISION SUPPORT

Enhancing police training

DR. MEGAN SMITH, Faculty of Creative and Critical Studies

Dr. Smith is working in collaboration with the Royal Canadian Mounted Police to create augmented and virtual reality immersive training environments, increasing the realism of police training.

Helping Canadian Armed Forces Veterans find post-military careers

DR. ERIC LI, Faculty of Management

Dr. Li is working together with the UBC Vancouver campus's Institute for Veterans Education and Transition (IVET) to use AI techniques to match veterans with civilian occupations and help them transition to post-military careers.

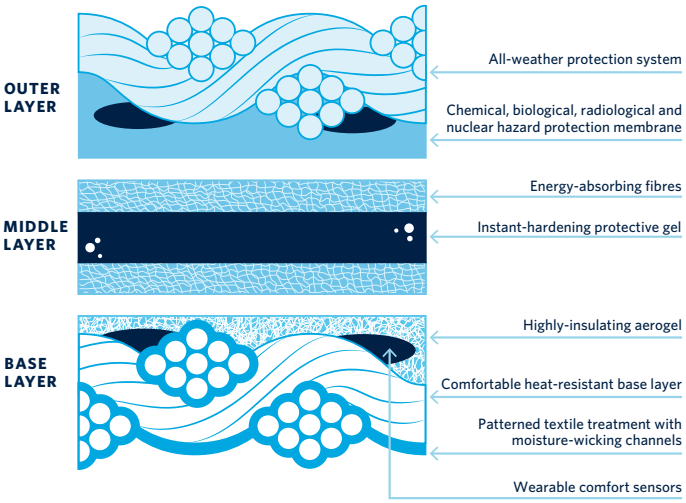
PROTECTIVE MATERIALS

Comfort-Optimized Materials for Operational Resilience, Thermal-transport and Survivability

DR. KEVIN GOLOVIN, School of Engineering

UBC STAR hosts the $2.2M DND-funded COMFORTS micro-network in collaboration with colleagues at the Universities of Alberta and Victoria — part of UBC STAR's extended (STAR West) network of researchers working together on advanced materials innovation.

The COMFORTS interoperable dismounted soldier protection system



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