# CENTRE FOR APPLIED RESEARCH AND INNOVATION
## INNOVATIVE SOLUTIONS TO REAL-LIFE PROBLEMS

**BCIT**®

# CARI YEAR IN REVIEW
## 2021/2022
APRIL 1, 2021–MARCH 31, 2022

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| **RESEARCH STAFF AND LABS** | **46** staff <br> **16** labs <br> **$36M** equipment <br> **37,000** sq ft lab space |
| **FACULTY AND STUDENTS** | **300** students engaged <br> **21** student researchers |
| **EXTERNAL FUNDING** | **$7,300,000** Government <br> **$4,300,000** Industry <br> **$11,600,000** Total |
| **INDUSTRY LIAISON** | **33** industry projects |
| **PROJECTS** | **40** active projects <br> **10** prototypes |
| **RECOGNITION** | **4** awards <br> **62** media highlights <br> **20** publications/presentations conferences <br> **32,000** social media impressions <br> **19,264,203** total reach from media |

Applied research at BCIT is exciting. It creates practical learning opportunities for BCIT's students, provides innovative solutions to industry challenges, and produces new, commercially relevant technology products and applications.

BCIT researchers and research groups have been working with industry clients for more than 30 years helping companies and organizations develop new technologies, products and services.

For more information visit **bcit.ca/applied-research**

MAKE+ TEAM


NATURAL HEALTH AND FOOD PRODUCTS
RESEARCH GROUP (NRG)


SMART MICROGRID APPLIED
RESEARCH TEAM (SMART)


APPLIED RESEARCH LIAISON
OFFICE TEAM (ARLO)

**BCIT CENTRE FOR APPLIED
RESEARCH AND INNOVATION**

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**bcit.ca/applied-research**



The Centre for Applied Research and Innovation (CARI) is home to MAKE+, NRG, SMART, the Centre for the Internet of Things, and the Applied Research Liaison Office that provides support to researchers across BCIT.

For over 30 years, CARI is helping companies produce new, commercially relevant technology products and applications. In addition to the work with industry, CARI is proud of its work with students and faculty across BCIT, the province and beyond.

The Centre for Internet of Things will keep BCIT at the forefront of this emerging technology and digital transformation with advanced hands-on education and training, industry collaboration, and research.

MAKE+ is an interdisciplinary research group focused on product development, applied research, and education. The team optimizes the functionality, user experience, value, and commercial success of emerging health, consumer, and industrial products. This team is capable of taking complex projects and ideas from requirement discovery and concept development.

Natural Health and Food Products Research Group (NRG) concentrates on issues related to natural health and food product quality, process improvement, and human health. NRG's goal is to ensure that all Canadians can achieve the potential health and economic benefits offered by natural health products, medicinal plants, and food products.

The Smart Microgrid Applied Research Team (SMART) converges expertise in the information technology, communications engineering, and energy management fields to develop prototypes and solutions for complex applied research problems. SMART has a reputation for unique experience in three strategic research themes: smart microgrid and energy management systems, electric vehicle infrastructure, and critical infrastructure cybersecurity.

## A FEW 2020/2021 HIGHLIGHTS

- BCIT Applied Research announces new MAKE+ Director
- BCIT Smart Microgrid Research Team (SMART) received the Electricity Human Resources Canada Award for Innovation in Human Resources Practices.
- Dr. Hassan Farhangi, Director, BCIT Smart Microgrid Applied Research Team (SMART, receives the Foresight 2022 Cleantech Top Educator Award.
- NRG researchers analyse poisonous sand ginger a small number of poisoning cases in the Fraser Health region ended up in the hospital.
- MAKE+ and other researchers came up with the idea to create a Student Collaborative Initiative (SCI) to help connect summer co-op students and researchers from BCIT, SFU, UBC, and ICORD.
- Dr. Paula Brown receives prestigious scientific award from AOAC INTERNATIONAL
- MAKE+ collaborated with entrepreneurial healthcare workers from the Royal Columbian Hospital to create a revolutionary device to improve the care of patients.
- BCIT partners with YVR Innovation Hub as living lab for IoT
- BCIT researcher Dr. Paula Brown awarded the ABC Norman R. Farnsworth Award
- BCIT SMART awarded $1.7 million to address barriers to electric vehicle adoption
- Smart Microgrid Applied Research Team (SMART) were awarded $1,569,460 for their project Virtual Learning in Canada's Infrastructure Sector from the Future Skills Centre.
- EllisDon, an employee-owned Canadian construction company based in London, Ontario, is helping to bring student ideas to life by sponsoring the BCIT Student Innovation Challenge
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- As Canada's only national, non-profit organization providing financing, mentorship, and resources to young aspiring entrepreneurs, Futurpreneur Canada is supporting BCIT students by sponsoring the 2022 BCIT Student Innovation Challenge
- BCIT student entrepreneurs offer free campus grocery shuttle service
- The BCIT Centre for Internet of Things (IoT) is introducing a new self-paced course teaching the practical implementation of IoT in different market segments by analyzing current real-world case studies"Centre for Internet of Things (IoT) introduced a new self-paced course teaching the practical implementation of IoT in different market segments by analyzing current real-world case studies
- Exciting and diverse student submissions were received for the 2021 BCIT Student Innovation Challenge. Ranging from a real-time orca detection system, tea bagless tea, brain-computer interface system, to a company that focuses on sustainable designs for home renovation