***George Brown College Sustainability Research Inventory 2017-2020***

| **Project Title** | **Center/Department** | **Principal Investigator** | **Co-Investigator** | **Sustainability Connection (if not evident in title of project)**  **Ex. Research into sustainable building materials** |
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| Invent Dev Phase 3: Design Studio | Applied & Institutional Research | Craig Edwards |  | This project is to create web and mobile applications expanding upon Invent Dev’s virtual reality visualization software that will allow interior designers and home users to build a 3D virtual reality (VR) experience. The applications will allow users to create 3D spaces and import 3D models of furniture and home décor from object libraries. As a result, interior design services will become more efficient and less wasteful. |
| Joe Fresh – Innovation in Textile Recycling – Phase 1: Environmental Scan and Preparation of Research Plan for Recycling Cellulosic Fibers | Centre for Arts, Design and Information Technology, School of Fashion & Jewellery | Syed Rizvi | Marilyn McNeil Morin | Currently a major source of landfill, up to 85% of textile waste could instead be collected and recycled. In accordance with the Ontario Waste Free Act (2016) and the principles of circular economy, Joe Fresh and Loblaw are seeking to explore the development of more effective ways to recycle textile fiber. As a result, Fresh/Loblaws Canada Ltd. approached to George Brown College Fashion Exchange to establish a two-year research program to explore and develop innovative recycling methods that could positively affect the Canadian apparel industry. |
| Joe Fresh – Innovation in Textile Recycling – Phase 2 - Initial testing of methods and materials to establish baseline data | Centre for Arts, Design and Information Technology, School of Fashion & Jewellery | Syed Rizvi | Marilyn McNeil Morin | The 2nd phase will be focused on performing initial testing to try out, complete, and refine the partial approaches, processes and methods identified in the first phase of the collaboration. This will result in a more complete laboratory method for cellulosic fiber dissolution. |
| Literacy Uplift (SSHRC Pawluk) | Centre for Arts, Design and Information Technology, School of Computer Technology | Przemyslaw Pawluk |  | Low literacy skills limit Canadians' abilities to effectively participate in the digital economy or to realize their full potential in their civic and personal lives. Recognizing the risks of pervasive low literacy levels amongst Canadians, this project builds upon the potential of mobile learning to promote and support literacy training for these learners. |
| Adaptive clothing for persons living with hemi-paresis (SSHRC Shahani) | Centre for Arts, Design and Information Technology, School of Design | Milan Shahani |  | A collaboration between George Brown College and the University of Toronto to explore wellness through innovative technology, allowing stroke survivors with hemiplegia to reintegrate into society. Commonly caused by stroke, hemiparesis is weakness (or complete paralysis in its most severe form) of the entire left or right side of the body. The project will undertake the research, design, and development of prototypes for a line of adaptive clothing, which will include outerwear, innerwear and lingerie. |
| Co-designing On-line Tools for Engagement and Holistic Crisis Planning with Diverse Youth Groups in the Region of Peel (SSHRC Hodson) | Centre for Arts, Design and Information Technology, School of Design | Elise Hodson | Ramon Delgado, Ronald Swaine, Nastaran Dadashi, Rob Sgrignoli | This project will be led by George Brown College in collaboration with the Centre for Addiction and Mental Health (CAMH), CoDesign, the Peel Service Collaborative (PSC), and Loughborough University/Design School in the UK. It aims to increase understanding of the potential for new interactive technologies, social networks and modes of communication to support crisis planning for marginalized youth and their support networks, resulting in an interactive, client-centered crisis planning tool designed for web and mobile platforms. |
| MAYD in CHYNA – Integration of an On-Demand Manufacturing and 3D Body Measurement in Small Batch Production | Centre for Arts, Design and Information Technology, School of Fashion & Jewellery | Mana Mojaver | Marilyn McNeil Morin | MAYD in CHYNA (MIC) makes clothing produced based entirely on the principles and practices of organic, sustainable and ethical production methods. The company came to GBC to explore new sustainable production methods while remaining small batch. |
| Analysis of Consumer Post-Purchase Decision-Making in Disposal of Single Serve Coffee Pods | Centre for Business, School of Management | Karen Sinotte |  | The project seeks to bring light into the factors involved in consumer decisions respecting disposal of coffee pods. From which are the optimal ongoing ways for coffee brands to influence disposal outcomes, to How do brands best motivate consumers to dispose of them properly. |
| Designing and implementing acculturation strategies in Canadian newcomer integration programs to increase employment prospects and job retention | Centre for Business, School of Human Resources | Robin Yap |  | This Project is a partnership between GBC and CultureLink. The main purpose is to contribute to capacity of settlement organizations and job training centers to effectively and efficiently bring newcomers into the workforce. |
| Job Talks: Innovative Study and Website for Recruitment in the Skilled Trades (SSHRC Callegher) | Centre for Business, School of Marketing | Jonathan Callegher |  | This project is a collaboration between George Brown College, Skills Ontario and Q. I. Value Systems to pursue innovative research to respond to identified gaps in information and communication about the trades. This research will be conducted in George Brown College’s Centre for Business. Through a national survey, recorded interviews and an interactive website called “Job Talks” the project will mobilize a new understanding of tradespeople by allowing the public to interact with the research findings, view videos of passionate tradespeople, and access career information. |
| An exploration of mental health and addiction concerns for international students | Centre for Business, School of Management and Centre for Hospitality and Culinary Arts, Chef School | Karen Sinotte | Eva Huang | International education enhances national competitiveness, creates job opportunities and brings government revenues. International education is regarded as the pillar and a key driver for Canadian current and future success and prosperity.  This project, led by Professor Eva Huang and Karen Sinotte, aim to develop a framework to tackle the mental health concerns of international students by conducting a secondary research. |
| Design of an E-Commerce Site for Clearlife Magazine | Centre for Business, School of Financial Services |  |  | Clearlife magazine is an online lifestyle publication targeting sustainable living, architecture and design. They currently publish articles that connect people with beautiful, sustainable home products and design. They are wanting to be able to sell these types of products as well as other future potential options using e-commerce but require assistance in getting this functionality running on their current site. |
| BIM Adoption Support through Visualisation and 3D Representation of New Animal Shelter for Uxbridge - Scugog | Centre for Construction & Engineering Technologies, Angelo DelZotto School of Construction Management and Trades | Ney Calderon (faculty) |  | Township of Uxbridge wants to adopt BIM processes during the design and construction phases of their new shelter. Using building information modelling (BIM) data generated during design and build over the whole project lifecycle enables faster, safer, less wasteful construction and more cost-effective, sustainable operation, maintenance and eventual decommissioning. |
| Closing the LOOP - Enabling better buildings with accurate, verified, organized data through Sustainability and BIM Research | Centre for Construction & Engineering Technologies, Angelo DelZotto School of Construction Management and Trades | Nakhshab Ashraf-Poor |  | Using building information modelling (BIM) data generated during design and build over the whole project lifecycle enables faster, safer, less wasteful construction and more cost-effective, sustainable operation, maintenance and eventual decommissioning. The research team reviewed and analyzed two additional standards and conduct compliance verification by testing materials and assemblies in sample Building Information Modeling (BIM) models. |
| CVC – Feasibility Study in Automated Real-time IoT Smart Blue Roof Systems for the IC&I Sector for Flood and Drought Resilience and Adaptation | Centre for Construction & Engineering Technologies,  School of Architectural Studies | Amir Shabani |  | This work will be done in collaboration with Credit Valley Conservation (CVC), a community-based environmental organization, dedicated to protecting, restoring and managing the natural resources of the Credit River Watershed. The George Brown team will focus on evaluating the applicability of “internet of things” for rainwater harvesting and blue roof applications. |
| Design and Prototype of Magnetic Repulsion Generator for VA Wind Turbine Applications (Phase 3) | Centre for Construction & Engineering Technologies, School of Architectural Studies and School of Mechanical Engineering Tech | Andrew Stuart (faculty) | Arizona Dixon (faculty) | Ishtech is an early phase start-up company located in Burlington, Ontario. They have identified a gap in the renewable energy market and have designed a proof of concept for a residential, magnetic repulsion generator for use in vertical axis wind turbine applications. |
| Empire Communities’ Hybrid Housing: Evaluating the Performance of Innovative Building Envelope Systems for Basement, Exterior Wall and Attic Assemblies | Centre for Construction & Engineering Technologies, School of Architectural Studies, School of Mechanical Engineering Tech, and Angelo DelZotto School of Construction Management and Trades | Steffanie Adams | Christopher (Paul) Timusk, Dahai Zhang | George Brown College will work with ROXUL® and Dow Building Solutions®, as well as Empire Communities and Clearsphere consultants, to evaluate and monitor the performance of new building envelope systems on two demonstration homes for efficiency. |
| H+ME: Modeling, analysis and report on wood framing and structural solution for an industry standard. | Centre for Construction & Engineering Technologies, Angelo DelZotto School of Construction Management and Trades | Petro Karanxha |  | H+ME Technology (H+ME) is based in Toronto, Ontario and is part of the Great Gulf family of builders. H+ME has recently approached the Centre for Construction and Engineering Technology (CCET) at George Brown College (GBC) to research and test different architectural software for an optimal solution to wood framing and wood structure analysis. |
| Noah Controls: Assistance in the design of a loading, assembly, and unloading mechanisms for wooden studs | Centre for Construction & Engineering Technologies, School of Architectural Studies | Eugen Karanxha (faculty) |  | Noah Controls is a design services provider that works with major corporations as well as small manufacturing shops in the Greater Toronto Area. Operating since 2012, Noah Controls leverages today's diverse technology to solve automation challenges for any budget. George Brown College will work with Noah Controls to design a wall-mounted mechanism to efficiently assemble various types of wooden studs, a key component in wall assembly for construction projects. |
| Owens Corning – Climate Simulator Testing of Above Grade Wood Frame Wall Assembly with XPS Insulative Sheathing and Fibreglass Batt Insulation- With and Without Polyethylene Vapour Barrier | Centre for Construction & Engineering Technologies, School of Architectural Studies, School of Mechanical Engineering Tech, and Angelo DelZotto School of Construction Management and Trades | Steffanie Adams | Basilia Aranha, Christopher (Paul) Timusk, Dahai Zhang | This project aimed to demonstrate, through a climate stimulator, a new interpretation of the role of exterior insulative extruded polystyrene (XPS) sheathing in section 9.25.4 of the 2012 Ontario Building Code. |
| RainGrid: Development and Optimization of a Remotely Monitored and Activated Rain Barrel | Centre for Construction & Engineering Technologies, School of Architectural Studies | Clayton Wozney (Faculty) | John-Allan Ellingson (Faculty), Ryan Billinger (staff) | RainGrid Inc is a climate adaptation firm specializing in Stormwater Smartgrid distributed rain harvesting systems for residential stormwater networks. |
| TCHC Victoria Park & Chester Le Community Data Acquisition Using LiDAR Technology | Centre for Construction & Engineering Technologies, Angelo DelZotto School of Construction Management and Trades, School of Apprenticeship & Skilled Trades | Petro Karanxha | Joris Raaijmaakers, Ney Calderon (faculty) | Using building information modelling (BIM) data generated during design and build over the whole project lifecycle enables faster, safer, less wasteful construction and more cost-effective, sustainable operation, maintenance and eventual decommissioning. |
| Validate and Optimize Digital Architectural Content Library for Turner Fleischer Architects Inc. | Centre for Construction & Engineering Technologies, Angelo DelZotto School of Construction Management and Trades | Petro Karanxha |  | Using building information modelling (BIM) data generated during design and build over the whole project lifecycle enables faster, safer, less wasteful construction and more cost-effective, sustainable operation, maintenance and eventual decommissioning. |
| Windgineered Technologies Inc.(Fujin): Vertical Axis Wind Turbine Testing | Centre for Construction & Engineering Technologies, School of Architectural Studies and School of Mechanical Engineering Tech | Andrew Stuart (faculty) | Paul Patrickson | Windgineered Technologies Inc. is a subsidiary Canadian company of Fujin Wind Energy (Fujin). Fujin (Windgineered) has recently purchased the intellectual property of a novel vertical axis wind turbine. They came to the college to investigate the capability of the vertical axis wind turbine. |
| Windgineered Technologies Inc.: Three Tiered Vertical Axis Wind Turbine Testing | Centre for Construction & Engineering Technologies, School of Architectural Studies | Andrew Stuart (faculty) |  | Windgineered Technologies Inc. is a subsidiary Canadian company of Fujin Wind Energy (Fujin). Fujin (Windgineered) has recently purchased the intellectual property of a novel vertical axis wind turbine. They came to the college to investigate the capability of the vertical axis wind turbine. |
| BIM Adoption Support Through the Visualization and 3D Representation of the Condominiums of Cornell | Centre for Construction & Engineering Technologies, Angelo DelZotto School of Construction Management and Trades | Nakhshab Ashraf-Poor | Jad Joulji | Using building information modelling (BIM) data generated during design and build over the whole project lifecycle enables faster, safer, less wasteful construction and more cost-effective, sustainable operation, maintenance and eventual decommissioning. |
| Planning and Visualization of the Lower Donlands – Point Cloud Creation for the Portland’s Area | Centre for Construction & Engineering Technologies, Angelo DelZotto School of Construction Management and Trades | Petro Karanxha |  | Using building information modelling (BIM) data generated during design and build over the whole project lifecycle enables faster, safer, less wasteful construction and more cost-effective, sustainable operation, maintenance and eventual decommissioning. |
| Waterfront Toronto-Planning and Visualization of the Lower Donlands – BIM Model Creation of Heritage Buildings in Portland’s | Centre for Construction & Engineering Technologies, Angelo DelZotto School of Construction Management and Trades | Petro Karanxha |  | Using building information modelling (BIM) data generated during design and build over the whole project lifecycle enables faster, safer, less wasteful construction and more cost-effective, sustainable operation, maintenance and eventual decommissioning. |
| Arso Automations – Electrical Energy Monitoring for Residential Buildings | Centre for Construction & Engineering Technologies,  School of Architectural Studies | Amir Shabani |  | Arso Automations came to George Brown to develop an energy metering and management solution for the residential market. |
| Better Current: Performance Evaluation and Design Audit of a Home-Use Smart Solar Charger | Centre for Construction & Engineering Technologies,  School of Architectural Studies | Amir Shabani | Ramyar Rashed Mohassel | Better Current has designed the world's first smart solar charger for better charging and energy security. They came to GBC to validate the annual usage pattern for their prototype in three test scenarios that simulate high latitude areas (regions) of sun exposure to determine the optimal software management control for energy capture/storage from solar versus grid. |
| Arso Automations – Electrical Energy Monitoring for Residential Buildings (Phase 2) | Centre for Construction & Engineering Technologies,  School of Architectural Studies | Amir Shabani |  | This project focuses on the development of an energy metering and management solution for the residential market, seeking to create a passive control system that tracks, aggregates and presents information on building performance and energy savings to homeowners, allowing them to make informed decisions on their habits and home energy management settings. |
| Better Current: Enhanced Prototype Testing and Preliminary Application Development | Centre for Construction & Engineering Technologies,  School of Architectural Studies | Amir Shabani |  | Better Current has designed the world's first smart solar charger for better charging and energy security. This project seeks to provide advanced testing and design modifications for the prototype, and the creation of a first generation app that can be used to track the performance of the device. |
| Partnership for Applied Research to Support the Development and Evaluation of the Post-Secondary Students with Disabilities Network (SSHRC Anyinam) | Centre for Health Sciences, School of Nursing  Centre for Arts, Design and Information Technology, School of Performing Arts and School of Design  Centre for Preparatory & Liberal Studies, School of Immigrant and Transitional Education | Charles Anyinam | Celina Da Silva, Francine Odette, Rob Sgrignoli, Rocco Panacci | The Post-Secondary Students with Disabilities Network (PSDNet) is a partnership-based, applied research program to promote the empowerment and personal development of post-secondary education (PSE) students with disabilities across Ontario primarily via the creation of an evidenced-based, Accessibility for Ontarians with Disabilities Act (AODA) compliant, website that uniquely mobilizes the potential of online and mobile social media technology. |
| Improving Health Numeracy in Health Science Students and Professionals Through an Online Instrument (SSHRC Gula) | Centre for Health Sciences, School of Health and Wellness  Centre for Preparatory & Liberal Studies, School of Work and College Preparation | Taras Gula | Miroslav Lovric | This is a collaborative project between George Brown College and McMaster University utilizing an action research approach to conceptualize health numeracy and ultimately to improve numeracy for health sciences students and professionals. |
| Generating Success for Farm to School Programs (SSHRC Hoyer) | Centre for Hospitality & Culinary Arts, School of Hospitality & Tourism Management | Gary Hoyer |  | This project is will determine best practices, fidelity features and provide concrete examples that will entice stakeholders to implement or expand Farm to School programs. |
| Rootham Gourmet Preserves: Market Assessment | Centre for Hospitality & Culinary Arts. School of Hospitality & Tourism Management |  |  | Rootham’s is an Ontario owned and operated business, sourcing fresh, hand-picked ingredients from local growers and distributing only through small-scale independent retailers. |
| Community Guide to Cancer Nutrition (SSHRC Symington) | Centre for Health Sciences, Centre for School of Health Services Management | Amy Symington (faculty) |  | This project is a collaboration between George Brown College and the Gilda’s Club of Greater Toronto to research, test and produce a comprehensive, informative and accessible handbook on cancer nutrition. The nutrition guide will be equipped with health–promoting recipes that could be used by Gilda’s Clubs and cancer care affiliates nationwide as a model for running similar health–promoting, and socially and emotionally supportive supper clubs. |
| Recipe Development for Guelph Family Health Study | Centre for Hospitality & Culinary Arts, School of Hospitality & Tourism Management | Candace Rambert |  | GFHS is a home-based randomized controlled trial designed to improve lifestyle behaviours of families with preschool-aged children, run within Guelph University. The FIRSt team will collaborate with GFHS to develop 30 child-friendly recipes (focused on snacking) as part of the initiative to address children’s nutritional deficiencies and family dietary concerns |
| Developing a Learning Simulation for a Capstone Course in Revenue Management for the GBC - H133 Program and Measuring the Outcomes | Centre for Hospitality & Culinary Arts, School of Hospitality & Tourism Management | Gary Hoyer |  | This learning simulation will allow capstone students in the H133 Hospitality-Hotel Operations Management program to control room rates, revenue, staffing, training, advertising, sustainability, renovations, capital expenditures and guest comfort, in a hotel. |
| From Margins to Center through Education: Integrating Victims of Torture and Political Oppression (SSHRC Bajwa) | Centre for Preparatory & Liberal Studies, School of Liberal Arts and Sciences | Jaswant Bajwa |  | This 2-year project to establish innovative outreach for people seeking to integrate into Canadian society following experiences of torture and war. |
| Transformative Learning for Social Change in Community-based Settings | Centre for Preparatory & Liberal Studies, School of Liberal Arts and Sciences | Jaswant Bajwa |  | This research project will gather quantitative and qualitative evidence of the critical components of transformative education, which will subsequently be employed to develop, pilot and evaluate an innovative model of transformational education. |
| Human Trafficking: Elevating Capacity in Child and Youth Practice (SSHRC Teles) | Community Services, School of Deaf and Deafblind Studies, and School of Social & Community Services | Melissa Teles | Zeenat Janmohamed, Heather Finch, Yasmine El-Hamamsy | This project is an innovative, community–based participatory project, which will develop, pilot and assess a practice framework and training tools. The framework will reflect and expand current research and service provision for youth impacted by Human Trafficking and Sexual Exploitation (HTSE) in Ontario. It will create an unprecedented professional development opportunity for Child and Youth Care Practitioners (CYCP) and contribute to the betterment of the lives of youth impacted by HTSE. |
| Toys or Tools? Using Tablet Computers for Open-Ended Literacy Learning (SSHRC McGlynn-Stewart) | Community Services, School of Early Childhood | Monica McGlynn Stewart |  | This 3-year project addresses the complexity of literacy teaching in 21st Century early learning classrooms, drawing on three bodies of literature – literacy, digital technology, and teacher development—to allow educators to provide an innovative learning environment for their students while exploring digital technology applications that allow for active, creative, and open-ended literacy. |

Unique list of researchers (from table, above):

1. Christopher Paul Timusk
2. Dahai Zhang
3. Francine Odette
4. Heather Finch
5. Nastaran Dadashi
6. Ney Calderon
7. Rob Sgrignoli
8. Rocco Panacci
9. Ronald Swaine
10. Ryan Billinger
11. Yasmine El-Hamamsy
12. Amir Shabani
13. Amy Symington
14. Andrew Stuart
15. Arizona Dixon
16. Basilia Aranha
17. Candace Rambert
18. Celina Da Silva
19. Charles Anyinam
20. Christopher
21. Clayton Wozney
22. Craig Edwards
23. Elise Hodson
24. Eugen Karanxha
25. Eva Huang
26. Gary Hoyer
27. Jad Joulji
28. Jaswant Bajwa
29. John-Allan Ellingson
30. Jonathan Callegher
31. Joris Raaijmaakers
32. Karen Sinotte
33. Mana Mojaver
34. Marilyn McNeil Morin
35. Melissa Teles
36. Milan Shahani
37. Miroslav Lovric
38. Monica McGlynn Stewart
39. Nakhshab Ashraf-Poor
40. Ney Calderon
41. Paul Patrickson
42. Petro Karanxha
43. Przemyslaw Pawluk
44. Ramon Delgado
45. Ramyar Rashed Mohassel
46. Robin Yap
47. Steffanie Adams
48. Syed Rizvi
49. Taras Gula
50. Zeenat Janmohamed