

Insert Principle Investigator Name

Insert Project Name

CIMVHR Advanced Analytics Initiative – Request for Support - Project Application

All Applicants acknowledge the research activities must:

- Align with CIMVHR vision: “The health and well-being of Canadian military personnel, Veterans and their families is maximized through world-class research resulting in evidence-informed practices, policies and programs”.
- Meet relevant legal requirements for protecting researchers, human subjects, the health and safety of the public, and the welfare of lab animals.
- Comply with relevant University and granting agency policies, regulatory or legal requirements that relate to the conduct or reporting of research and scholarly activity.
- Be conducted under appropriate approvals, permits or certifications.

PROJECT OVERVIEW	
Project Title:	
Focus Area: <i>To which focus area(s) does your project belong?</i>	
<input type="checkbox"/>	Precision Medicine: i.e. Medication/treatment selection, order of care, response based treatment
<input type="checkbox"/>	Personalized Care: i.e. Treatment tailored to the individual
<input type="checkbox"/>	Military Families’ Challenges: i.e. Impact of Military Families’ lifestyle on health and wellbeing
<input type="checkbox"/>	Research Data Challenges: i.e. Privacy, Access, Mining, Consolidation
<input type="checkbox"/>	Other _____
Principal Investigator (PI): A PI must be a researcher at a Canadian university partnered with CIMVHR; applications from government advisors and international affiliates can only be considered if done in collaboration with CIMVHR Canadian partner university members. Name: Position: Institution / Organization (Department): Mailing Address: E-mail: Phone	
Opportunities for Highly Qualified People (HQP) Training and Development Please indicate your need for the following (check all that apply): Postdoctoral fellow (2-year term) _____ Graduate student – please indicate number of 4-month units: _____ Undergraduate/College student – please indicate number of 4-month units: _____ Please also describe more precisely how your project will develop HQP and the skills of trainees: _____	

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PROJECT OVERVIEW (cont'd)

Lay Summary/Project Description: Idea/Problem/Issue that will be addressed: The lay summary should not be longer than 150 words describing the nature of the work to be done. It should be written in clear, plain language. It should be written in non-technical terms that can be clearly understood by reviewers/readers with various areas of expertise (i.e., minimal academic terminology and references to methodology. Indicate why and to whom the research is important, the anticipated outcomes, and how your field and Canada military, Veterans and/or their families will benefit.

Describe the specific challenges, research problems, or technical complexities that this project expects to address. How does it affect competitiveness, products and customers? What are the barriers that need to be overcome? What global market is addressed and what is the expected percentage capture if the challenge is solved?

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COLLABORATORS	
Academic Partner(s) if applicable <i>i.e. Other University Institutions and/or Research Hospitals [If additional partners, please duplicate this box and add content]</i>	Name of Organization: Business Number: Contact Name and Title: Mailing Address: E-Mail: Phone Role on Project:
Government Partner(s) if applicable <i>[If additional partners, please duplicate this box and add content]</i>	Name of Organization: Business Number: Contact Name and Title: Mailing Address: E-Mail: Phone Role on Project:
Commercial Partner(s) if applicable <i>[If additional partners, please duplicate this box and add content]</i>	Name of Organization: Business Number: Contact Name and Title: Mailing Address: E-Mail: Phone Company/Partner Information: <i>Describe the company role in the project, its year of incorporation, its products, sales, number of employees and innovation track record. If the company is pre-revenue, briefly describe how much has been invested to date by founders, family, angel capital and venture capital</i>

Funding / Funding Collaborators	
Does the project having existing funding	YES/NO
If YES , Please provide an understanding of the nature of existing funding and advise of any Funding Collaborators	
Funding Collaborator if applicable <i>[If additional collaborators, please duplicate this box and add content]</i>	Name of Organization: Business Number: Contact Name and Title: Mailing Address: E-Mail: Phone Nature of Funding:

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PROJECT RESOURCES

Project funding, access to technical support, advanced analytics products and other resources will be determined based on each project needs and available resources.

Requests will be assessed on a project by project basis using the information provided.

Do you have access to the Experts you require to complete the project:

Most projects will require support of individuals with the following types of expertise, please indicate who will be providing this expertise or how you plan to acquire the skills:

- *Yes: describe who on the project team will be providing this skill and their associated credentials:*
- *No: indicate how you expect to acquire the needed expertise*
- *Not Required: Please explain why this expertise is not required for your research project.*

Data Scientist/Computer Science Experts YES/NO/Not Required

(i.e. Strong understanding of big data, advanced analytics, machine learning, use of High Performance Computing resources (HPC) in health research and how the technology can be used to drive new discoveries):

Project Architect YES/NO/Not Required

(i.e. Skills to put together the research solution comprised of medical, data and computer science aspects of the project):

Medical Experts: YES/NO/Not Required

(i.e. Skills required to guide the medical aspects of the research project including protection of personal data , etc.)

What are the Data Requirements for the project:

Reliance on Big Data Describe the projects reliance on Big Data:

- *What type of data is being used: Device Data, Distributed Data, Streaming Data and/or, Unstructured Data*
- *How does the data relate to the Military or Veterans population that CIMVHR is serving?*
- *Do you have access to the required data?*
- *Where does the data reside?*
- *Do you have the authority and security to use the data?*

Privacy and Confidentiality: *If your research involves human subjects, do you intend to use personally identifiable information? If so, have you performed a privacy impact assessment or otherwise met the requirements of your institution's REB regarding privacy and confidentiality? Do you plan on rendering the data non-identifiable? Will you be applying the principles of Privacy by Design (www.privacybydesign.ca)? (Provide a brief summary, if applicable of how you are satisfying these requirements).*

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Technology Resource Requirements (Hardware, Software and expert assistance)

Note: research projects may require access to advanced (HPC) computing resources that the researchers do not normally have access to locally. The IBM team supporting CIMVHR can provide consultation on the best way to gain access to these resources prior to this application being submitted. In some cases a project may qualify for access to exclusive SOSCIP HPC systems, software and expertise. For more information please refer to WWW.SOSCIP.ORG. To arrange for IBM guidance on this technology resources request please contact CIMVHR well in advance of the proposal submission deadline.

Describe the requirement for Advanced Analytics technology and identify any specific requested resources. Provide an overview of the research and development methodology to develop the solution and outline how the proposed methodology will resolve the problem and demonstrate its novelty. This is an important element of this research program. Please make every effort to have the solution requirements known and understood before finalizing the proposal.

Hardware: *What are the hardware requirement/request for any of the following: HPC, Parallel Computing, Streaming Analytics, Cloud CPU's, GPU's, Storage, Other. Please indicate where you intend to acquire this and who will be involved. Please indicate if there is a requirement for location specific hardware.*

Software: *What are the software requirements/requests for any of the following: Streaming Analytics, Algorithms, Big Insights(Hadoop), IBM Watson AI systems, Database Software, Medical Imaging PACS, Other*

Guidance and Assistance: *Is there a known requirement/request for technical experts to assist in the preparation and use of these resources. (Please note, this is not a substitution for the research team to have experts that will plan and drive the use of these systems)*

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Project Plan

Project Plan:

Please provide a project work plan and schedule of activities in the table below that identifies milestones at 4-month intervals. The activity schedule will be used to assess whether a project is feasible and whether the available resources are adequate to complete it on schedule. Please note that fostering skills development (research, technical, and business), knowledge translation, and commercialization activities between academic and commercial partners is integral to CIMVHR's mandate. A key determinant for a successful CIMVHR application is the ability to adequately define intended research and business outcomes.

Please include project milestones and the activities/steps required to achieve them; the start and end dates for the activities leading to the milestones; and the major results or key deliverables expected.

Estimated Duration:

Project Start Date: _____

Project End Date: _____

Expected Project Duration: (Projects are expected to be a maximum of 2 years in duration)

<i>Project Activities (insert more rows if needed)</i>	<i>Expected Outcome</i>	<i>Start Date</i>	<i>End Date</i>

Key Dependencies & Risks: Does your project have any key dependencies without which it would not be able to proceed? Outline any risks and mitigation strategies.

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Research Proposal Details (To be submitted in English. Not to exceed 6 pages including graphs and images (as appropriate))
Objectives of the proposed research program – these must be in line with CIMVHR Vision and Priorities: the health and well-being of Canadian military personnel, Veterans and their families is maximized through world-class research resulting in evidence-informed practices, policies and programs that support key stakeholder identified priorities, such as, but not limited to, precision medicine, personalized care, family challenges, research data challenges related to Canadian military, veterans and family health.
Research question(s) and/or hypothesis(es).
Theoretical approach or framework that will be used – these must rely on Big Data Analytics and can take several forms, such as, but not limited to, Device Data, Distributed Data, Unstructured Data (i.e. doctor’s notes, imaging).
Methodology (including timelines) and why it was chosen , including the requirement for Advanced Analytics Capability and Resources such as, but not limited to, Parallel Computing, Streaming Analytics, Cloud Access (x86 Servers), as well as Software Solutions such as, but not limited to, Machine Learning, Streaming Analytics, Algorithm, Big Insights, AI Assisted Application Development
Plans for collaboration , including collaboration plans across academic and industry partners and any other third parties such as IBM or SOSICIP resources for Mentoring, Support from IBM Technical Experts, support from international Research Experts, data scientist/computer science experts, architect skills, medical resources, access to data resources etc.
Rationale for the academic institution and/or research hospital.
Approximate budget over a period of no more than two years. (Note: the target project budget is \$200,000 of funding over two years for HQP staff resources. This budget may be exceeded in some special cases, however if specific IBM “in-kind” contributions has been identified with IBM prior to the application submission). Please specify details of the Project budget and the funding being requested.
Contribution that the research will make to the advancement of knowledge
Plan to disseminate the findings and/or enhance the potential for impact , including capacity building, such as, but not exclusive to, education, training, skills development
Plans for commercialization (where applicable): Please note that plans for commercialization are not a requirement for CIMVHR funding they may be required to gain access to third party resources (ex SOSICIP). Any industry partners in the project may consider the possible ways the research outcome could be commercialized in the future. As IBM may be providing funding and in-kind contributions for this project, IBM, could be an industry partner, but, involvement of additional industry partners is encouraged.
References

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IMPORTANT NOTES:

Acknowledgement of Industrial Regional Benefits Program

All individuals making an application for support acknowledge the CIMVHR Advanced Analytics Initiative is the result of a collaboration between CIMVHR, IBM Canada Ltd. and Babcock Canada Inc. to produce Industrial Regional Benefits Credits for the Victoria Class In Service Support Contract.

Project Collaboration Agreement

Collaborators must agree terms set out in Project Collaboration Agreement which will include the following commitments:

- a. milestone reporting to CIMVHR Directorate (on which will depend the flow of money)
- b. update on Project Progress through submissions at CIMVHR annual FORUM Event and other significant event
- c. publication of project in the Journal of Military, Veteran and Family Health or other academic-led journal
- d. valuation reporting for purpose of Industrial Regional Benefits reporting
- e. Intellectual Property (IP) governance including background and foreground IP

Projects will not start until the Project Collaboration Agreement (PCA) has been signed. If a project is unable to proceed within 60 days of the date the PCA is signed, due to technical or other limitations, the investigators may withdraw their statement of support.

Communications

All those who receive funds from the CIMVHR Advanced Analytics Initiative will be asked to acknowledge CIMVHR, IBM Canada Ltd. and Babcock Canada Inc. as sources of funding in all presentations and publications related to their research. In some cases MITACS may also be involved in funding.

The terms governing any publication, joint public relations and communications, press releases, advertising, written sales promotion, public notices, or other publicity materials arising from CIMVHR sponsored Research projects will be included in the Project Collaboration Agreements (PCA) and agreed to by the appropriate research collaboration partners and other parties.

Presentation standards for submitted documents

- a. All submitted documents related to the application must be prepared according to the standards provided. CIMVHR Directorate reserves the right to reject applications not prepared according to the instructions provided. These may be deemed ineligible.
- b. If supporting documents are written in a language other than English, applicants are required to submit a certified translation of these documents.
- c. The proposal must be written by the applicant and with the understanding that it will be reviewed by a multidisciplinary selection committee (non-specialist audience).

Formatting instructions to prepare your documents

- a. Pages must be 8 ½" x 11" (216mm x 279mm)
- b. Insert a minimum margin of 2cm (3/4 inch) around the page (top, bottom and sides)
- c. Text must be double-spaced
- d. Use a minimum font size of 10 (Arial) with no condensed type
- e. At the top of each page, the name of the applicant (principal investigator) and the title of the document should be included
- f. For multi-page attachments, number the pages sequentially

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