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| **Applications will be accepted from:**  Both MD & non-MD Undergraduates  MD undergraduate students only non-MD undergraduate students only |
| **Project Duration:**  Suitable for either a 4 or 8 week project (Only Yr 3 MD students are eligible to apply for 4-week projects)  Only suitable for an 8-week project Only suitable for a 4-week project |
| **Additional information for potential student partners:**  E.g. desired skills/interests/experience, scheduling restrictions for the project timeline, additional info you want applicants to provide when contacting you about this position, etc. |

**PROJECT INFORMATION**

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| **Project Title: *Multiple Sclerosis epidemiology, pharmacoepidemiology and the gut microbiome: project topic depends on the interest and skillset of the student*** |
| **Hypothesis or Research Question being addressed (400 character limit, ~55 words): *Project topic to be discussed; depends on the interest and skillset of the student*** |
| **Keywords: Provide approximately 5 key words that describe the proposed research project.**  multiple sclerosis  prodromal (pre-clinical) multiple sclerosis comorbidities  microbiome  drug safety and effectiveness |

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| **PROJECT ATTRIBUTES AND BENEFIT TO THE STUDENT**  Please review the [online adjudication criteria](http://www.med.ubc.ca/current-learners/summer-student-research-program/adjudication/) carefully prior to completing the next two sections to ensure your application is addressing the adjudication criteria outlined in “Project Attributes and Benefits to the Student”. |
| **A) Background and Summary of Proposed Research. Summarize the proposed project including the rationale for the project, the context within the relevant field of research, the proposed research approach and the expected project outcomes.** *If this is an ongoing project of >8 weeks duration (or 4 weeks for MD 2022 students) clearly distinguish the expected project outcomes at the end of the FoM SSRP funding period from the overall project objectives.* **Please write in lay terms for a non-specialist audience.**  **Character Limit: 3050 characters (~430 words)**  **\*\*Please contact the PI early to discuss options and specific projects\*\***  Project scope will depend on the skillset, interest and prior research experience of the student. A broad overview of the research program is provided below.  Multiple Sclerosis (MS) is a degenerative disease of the brain and spinal cord. Every day, 3 more Canadians are diagnosed with this progressive disorder with no cure. My research goals are to investigate possible underlying factors driving disease progression – from genes to the environment. My team have a program of work dedicated to advancing our understanding of the earliest manifestations of MS – the MS prodrome. Once a person is diagnosed with MS there are over 20 different drugs approved to treat the disease. Whether the current MS drugs have any long-term beneficial or even harmful effects is also an active area of study. A core component of this program focuses on bringing together, for the first time, multiple large health databases created for over two decades by physicians and pharmacists. My team are also involved with a cross-Canada collaboration related to the diet, gut microbiome and pediatric-onset MS. Ultimately, we aim to improve the health, treatment options and outcome for people with MS.  The successful student will be a contributing member of Prof. Tremlett’s research group. With the vision of fostering excellence in multi‐disciplinary clinical, therapeutic, and epidemiological research to advance knowledge and improve the well‐being of those affected by MS, Prof. Tremlett’s research group thrives on diversity. Team members are trained in a variety of disciplines, creating a truly interdisciplinary approach to research.  There are opportunities to be involved in one of several exciting cross‐Canada and international multi‐site collaborations. These collaborations typically include accessing comprehensive health administrative databases linked together with clinical data to examine many different aspects of MS, the MS prodrome, MS care and MS epidemiology. Some examples of ongoing research topics include questions related to risk factors associated with MS, the MS prodrome, impact of comorbidities such as cardiovascular disease, and drug adherence, safety and effectiveness, through to the contribution of diet and the gut microbiome in paediatric-onset MS. Our team also has considerable experience with conducting and publishing systematic reviews on these related topics.  See also our publications and websites:  Google Scholar: https://scholar.google.ca/citations?user=ma37lUsAAAAJ&hl=en  Blog: Tremlett's MS Research Explained: <https://tremlettsmsresearchexplained.wordpress.com/> web-site: <http://epims.med.ubc.ca/> |

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| **B) Outline the student’s role in the project and describe how they will benefit from their involvement.** This section must address how involvement in this project will help the student gain an understanding of how high quality research is conducted. This includes addressing the opportunities to learn new skills in the context of the relevant learning objectives listed in the [adjudication criteria;](http://www.med.ubc.ca/current-learners/summer-student-research-program/adjudication/) their anticipated interactions with other researchers and the available resources that will contribute to a beneficial experience.  *Clearly indicate which items will be completed during the FoM SSRP funding period and which (if applicable) will be completed before or after the funding period if the student and supervisor have chosen to also work together outside of the funding period. Project feasibility is considered during the adjudication process; 4-week and 8-week projects will be adjudicated separately, with appropriate consideration given to each.*  **Character Limit: 3800 characters (~540 words)** |

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| **Please indicate if your project requires the following and indicate their status as appropriate.** This will help clarify the scope of the project for potential student partners. |
| **This project requires ethics approval (human or animal):**  Yes No  If yes please indicate if you:  Already have approval Will obtain approval before the SSRP funding period Intend for ethics application to be a focus over the funding period  \*Please note that as ethics approval can be a lengthy process it is recommended that this be obtained well in advance of the funding period unless the intention is for this activity to form a major part of the FoM SSRP-funded portion of the project.  **This project requires access to electronic medical records:**  Yes  No  If yes please indicate if you:  Already have approval Will obtain approval before the SSRP funding period Plan to obtain approval during the SSRP funding period  **This project requires operational/institutional approval:**  Yes No  If yes please indicate if you:  Already have approval Will obtain approval before the SSRP funding period Plan to obtain approval during the SSRP funding period |

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| **Research Location (As applicable, indicate where the project will be conducted.)** | |
| City or Region: Vancouver  Research Centre: Djavad Mowafaghian Centre for Brain Health Hospital: UBC Hospital  Program or Unit:  Additional information (building, lab etc.): | |
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| **Supervisor’s Information** | |
| **Supervisor Last Name:**  Tremlett | **Supervisor First Name:**  Helen |
| **FoM Department/School (Main FoM Appointment):**  Medicine | **UBC FoM Division (if applicable):**  Neurology |
| **Preferred contact method (for students)**  Phone supervisor  Email supervisor | Phone alternate contact Email alternate contact |
| **Preferred Phone:** | **Supervisor Rank (Instructor, Professor etc.):**  Professor |
| **E-mail Address:**  [helen.tremlett@ubc.ca](mailto:helen.tremlett@ubc.ca) |  |
| **Optional Alternate Contact** (e.g. co-supervisor, research/lab coordinator, assistant etc.) | |
| **Contact’s Name:** | **Contact’s Role:** |
| **Contact’s Phone Number:** | **Contact’s E-mail Address:** |