**Christina Ziebart BSc, MSc, MPT, PhD candidate**

*PhD candidate* | Health and Rehabilitation Sciences

Western University

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To: Dr. Jayne Garland and Wanda Chebott

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Dear Dr. Garland and Review Committee,

It is with enthusiasm that I am writing to apply for the position of the *Tier 2 Canada Research Chair in Activity and Aging*. My curriculum vitae, as well as a statement describing my research and teaching statements are enclosed. Dr. Joy C. MacDermid, Dr. Lora Giangregorio, and Dr. Judi Laprade have agreed to provide letters of recommendation on my behalf, and their contact information is also enclosed.

I am currently completing my final year of my PhD and have completed enrollment for my randomized trial participants of a new exercise and education fracture prevention and recovery program. Currently Ihave published XX/XX manuscripts from my thesis trial and have started the final preparations for my spring defense (June 2022). This means I would complete all my degree requirement prior to the start date for this position.

My previous training has provided the ideal preparation for success in the in the *Tier 2 Canada Research Chair in Activity and Aging*. I completed my Bachelor of Science at the University of Waterloo in Kinesiology with a minor in human nutrition. For my fourth-year thesis project I looked at the sensor characteristics of different accelerometers to quantify the difference between them. This project was published in the *Journal of Biomechanics (Impact Factor (IF)=2.7)* and presented at an international conference. Dr. Lora Giangregorio with the support of Dr. James Tung supervised me for that project. I stayed under the supervision of Dr. Lora Giangregorio for my Master of Sciences in Kinesiology at the University of Waterloo. My thesis looked at the influence of vertebral fractures in people with osteoporosis on physical performance measures. Through my thesis I published two manuscripts both in *Archives of Osteoporosis (IF=2.6)* and presented the work at international conferences. As a side project throughout my masters, I worked on a project looking at the barriers, facilitators and needs of people with osteoporosis to uptake osteoporosis exercise recommendations. This project also produced two manuscripts, one in *Archives of Osteoporosis (IF=2.6)* and the other in *Osteoporosis International (IF=3.6)*. My PhD training was under the supervision of Dr. Joy MacDermid at Western University. The focus of my research through my PhD was to develop and implement an exercise and education program for people 50-65 after a distal radius fracture. To inform the exercise portion of the project I conducted a survey of nearly 300 participants with osteoporosis to understand their exercise preferences, which was published in the *Journal Osteoporosis and Physical Activity (IF=3.5)*. To inform the education portion of the project I conducted interviews with people with osteoporosis to better understand information flow when being diagnosed with osteoporosis and knowledge gaps that patients would like filled (two manuscripts are under review). Through my PhD thesis work I collaborated with an endocrinologist at McMaster University, several surgeons at St. Joseph’s Health Centre in London, Ontario, physical therapists at Western University and St. Joseph’s Health Centre and occupational therapists at Western University and St. Joseph’s Health Centre, resulting in a total of 24 published manuscripts, 16 of which I was thee first authors. Further, I have collaborated with researchers across Canada at Dalhousie University, University of Toronto, Lakehead University, McGill University, University of British Columbia and Marshall University in the United States, and most importantly with patient partners in the community. I will bring these collaborations to Western and the Faculty of Health Sciences.

My research program focuses on:

1. Exercise interventions for osteoporosis fracture prevention and recovery

2. Falls prevention strategies for home and community safety

3. Knowledge translation strategies to increase adherence to exercise for older adults

4. Population -based studies of bone health

I have a positive career trajectory having published 24 papers, with an increasing trajectory (8 in 2020, 11 in 2021) and 19 presentations. I received a competitive CIHR doctoral award to support my training, and have conducted a variety of knowledge mobilization initiatives. My current research program uses exercise to reduce the risk of fractures and rehabilitate fractures in people with osteoporosis or at risk of developing osteoporosis. Osteoporosis is a highly prevalent problem affecting XX % of Canadians overt age XX. Exercise, safe movement and fall prevention are core components of bone protection and preservation for people with osteoporosis; and the focus of my research program. I believe

Western University, will be the ideal environment to launch research program. My initial focus will be to implement studies in my research themes, and develop new collaborations with Faculty of Health Sciences colleagues. This means I will conduct aa national survey of people living with osetoporisis to define exercise and fall prevention behaviours and needs, b) developing and testing a technology-enabled home-based fall hazard identification and balance re-training program and c) ICES studies on fracture risks I will progress my research in knowledge translation by a) developing and testing tools to increase the uptake and adherence to exercise recommendations; b) conduct motivational interviewing sessions with older adults interested in making a change to increase their exercise and c) use technology to monitor actual versus perceived activity levels in older adults. This will integrate my training in KT with my XX years experience teaching exercise to people with osteoporosis.

I recently completed my MPT degree at Western University and I am currently practicing in a private clinic with a musculoskeletal focus. As a clinician scientist I believe that knowledge translation/mobilization is a critical function of our roles. I continue to strive to improve health access to community dwelling people in general, and the underserved population more specifically. I work as the Editor-in-Chief of a student-run rehabilitation sciences magazine. This magazine works to disseminate health and rehabilitation knowledge to a lay audience, informing the general public on recent advances of health and rehabilitation research and social changes. A recent special issue of the magazine highlighted social issues in rehabilitation such as access to care, under-represented individuals, and supporting family members while caring for their relatives. In this issue, I co-authored two articles: one on health equity for transgendered people, and second, an article on recognizing the value of person-centered care for people with disabilities. Additionally, I am part of a student run health clinic offered to underserved population in London. Unfortunately, the pandemic has delayed the clinic launch date, but so far, I have represented and advocated for the value of physical therapy for these community dwelling underserved individuals. Our vision is to have a physical therapy student providing care to the community for free during all operating hours of the clinic. Finally, as a physiotherapist I have worked to advocate for my patients and provide the support they need on their trajectory to recovery. I am an expert in exercise in older adults, as a member of the Canadian Society for Exercise Physiology as a Certified Exercise Physiologist. I am also one of three individuals in Canada trained to provide exercise education to healthcare professionals working with people with osteoporosis. I have also worked with the CCAA to update their Tiered Exercise Programs and Senior Fitness Class to be evidence informed and adhere with the Canadian Physical Activity Guidelines.

Related to my teaching, I have experience in both teaching students on a variety of health and rehabilitation topics, but also developing new programs and curriculums. I have given lectures on falls prevention, the effect of microgravity on bones, bone health and aging, non-pharmacological management of osteoporosis, cardiovascular and respiratory response to exercise, and exercise prescription for older adults. I have worked closely with a physician to offer an exercise class to people with osteoporosis, where I developed the program and taught the exercise class. I am one of only a handful of individuals trained to teach BoneFit, a training course for clinicians to learn more about how to prescribe exercise to people with osteoporosis. Finally, through my PhD project I developed an online education program, teaching adults about non-pharmacological management of osteoporosis. Beyond an academic setting, I worked as a swim instructor and first aid instructor for many years. My experience teaching in these different contexts will serve me well as a foundation for my teaching. I would be able to confidently teach in the departments of Physical Therapy and Kinesiology, and teach specialized course on activity and aging across all departments in the Faculty of Health Sciences.

My teaching philosophy is to encourage the students to become curious, life-long learners who take ownership of their learning and learn to apply it practice. I will create a safe learning environment where students are encouraged to ask questions and learn both independently and in small peer-groups. I believe the unique skills and life experiences each person brings to cases are topical discussions providing opportunities for mutual understanding and growth. I will create a learning environment that provides students with up-to-date evidence, and provide the students with tools on how to practically apply the theory.

In my research and teaching I will strive to be equitable, diverse, and inclusive (EDI). My classroom and lab will be safe places for the students to learn and engage with excellence, integrity, respect, academic freedom, and accountability. I recognize the importance of language and I will ensure that my language reflects inclusivity. I will also advocate for equity seeking groups by speaking up when I see inequality, listening to the struggles that people have faced and continuing to research and learn about marginalized people including Indigenous peoples, people with disabilities, 2SLGBTQIA+, and people of different faiths. I will also integrate an EDI lens into my research, taking special considerations of EDI when developing research questions, in the outcome measures, in the analysis and interpretation of the results.

I am highly committed to achieving and excelling in as a Tier 2 Canada Research Chair in Activity and Aging. I believe that my past experiences teaching those of all ages both in person and virtually, devotion to inclusion, strong community partner organization relationships, as well as my skills, dedication and knowledge will make me an asset to the Faculty of Health Sciences.

Please contact me with any questions you may have and thank you for considering my application.

Sincerely,

Christina Ziebart, MSc, MPT, PhD candidate