

The realm of Mechanical Engineering and Material Science has been among the most interesting things to me in the world, maybe more interesting than the world, and that is why what is conducted in the field, is intriguing enough to define serious and long term plans. I remember my teenage days, dreaming about becoming an engineer, and that led me to be accepted in the University of Tabriz, which is one of the top universities in Iran. In Tabriz, which has a long history of industrialization, I was obsessed with solar cells and the role of green energy in the sustainable development of human societies. Therefore, I conducted my final research entitled the *Dye Sensitized Solar Cells* which was highly welcomed and passed with the A+ grade.

My long term plans to be an innovative engineer and researcher continued into my postgraduate studies at the Shahid Beheshti University of Tehran. In this program, I focused on the fraction behavior and wrote my master thesis on the *Experimental Investigation of Mechanical Properties and Fracture Behavior of a Hypereutectoid TRIP Steel*. Due to my interest in the topic, I paid a lot of attention to the details, and consequently, my thesis accepted with an A+ degree.

Many reasons are influential in choosing a university to continue my studies. The first and foremost reason to choose McGill university is the possibility of studying fracture mechanics and brittle fragmentation which stand in great alignment with your research interests. Hence, I have high hopes that this alignment in research interests can have outstanding results for different parties. Besides, I am confident that by choosing McGill, new windows to more productive researches, and improving industries will be opened. The importance of diversity and inclusiveness in McGill's policies is highly respected and I value the humanitarian standards which the university tries to save. These policies help motivated students like me to follow their dreams and play a significant role in the enhancement of social functioning.

To certify my shared research interests with you, it is noteworthy to mention that I have studied some of your publications like Zhang, D., Kang, Y., Selvadurai, A.P.S. and You, L. (2019) *Experimental Investigation of the Effect of Salt Precipitation on the Physical and Mechanical Properties of a Tight Sandstone*, *Rock Mechanics and Rock Engineering*, <https://doi.org/10.1007/s00603-019-02032-y>. The article motivates me even more to apply zealously for this position, as I have also investigated the brittle and ductile fracture in TRIP steels. The mentioned shared research interests can be considered as one of the strongest incentives to choose you as the potential supervisor. However, these shared research interests are not limited to my master thesis and your article as I continued to research in the field and prepared two submitted articles about fabricating a sort of strengthened and tough alloy to be used in the automotive industry. In these articles, the main suggestion is to design heat treatment cycles a thermo-mechanical process to evaluate the microstructure of the investigated steel alloy. The next step is to study the fracture and mechanical properties of the mentioned alloy and by referring to this background, I have found these methods and functions thereof in the fracture mechanisms of rocks and stones quite fascinating. My confidence to apply and be a member of your research team will be more evident as I eagerly worked in the mechanical properties of materials lab for three years. To conclude, the shared research topic between your research and my mater thesis and publications had a large impact on my decision about choosing you as my potential supervisor.

To be honest and to the point, financial assistance can be an undeniable help during the period of studying at McGill University. I have worked hard during my studies until now and due to the current economic collapse of my country, self-funding cannot be the best option for me. Therefore, I appreciate you for considering the opportunity of receiving financial assistance as I am certain it can help me to be a more productive and innovative

researcher in your team. Working with you and your research team with these shared interests, not only provides me the opportunity of being fit to the program, but also I think this opportunity combined with my high motivations can help me to be a useful member of the McGill's research community.

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