

Statement of Research Interests

My vision in research is to continuously enhance scholarly reputation and standing by ensuring quality research and thus contributing to knowledge in collaboration with the faculty members within the university and with the local industries.

I have achieved significant research experience in the broader field of Civil & Structural Engineering throughout my teaching and research career. As mentioned in the curriculum vitae, my research interest is in the area of Strengthening of structures with Fiber Reinforced Polymer (FRP), Seismic design and retrofitting of bridge and building structures; development and performance evaluation of innovative thin-walled composite structures for extreme loading conditions; structural Dynamics, and structural Concrete.

Thin-walled Composite Structures

From my research on thin-walled composite structure, an innovative composite floor panel namely Profiled Steel Sheet Dry Board (PSSDB) composite panel system has been developed and it was successfully implemented in some building projects within Malaysia. The performance of full-scale folded plate roofing structure of PSSDB panel has also been studied in this research. Various analytical solutions to evaluate the structural performance of such composite structure have also been developed. In my previous appointment, I was involved with research that dealt with the *dynamic performance* of such floor panel subjected to human induced vibration. In conducting this research, I have collaborated with local industry partners. My research findings in this area of research have been published in some recognised international journals and conference proceedings.

Strengthening of Structures with FRP sheet:

I have worked and gained expertise on this area of research during my post-doctoral appointment at Ibaraki University, Japan. In my previous appointment at UNIMAS, I have worked on the repair and strengthening of structures and dealing mainly on the long-term deflection and cracking performance of CFRP sheet strengthened structures. The creep and shrinkage of

cementitious material for composite action is also considered in this research. I received one research grant from Ministry of Higher Education, Malaysia to conduct this research. One Masters and few Undergraduate students have successfully completed their theses on this topic under my supervision. I have published few papers based on the outcome of this research in some recognised international journals.

Seismic Design and Construction:

I have gained expertise in this area of research through a graduate training course on “Aseismic Design and Construction” from Institute of Earthquake Engineering & Engineering Seismology, University of St. Cyril and Methodius, Macedonia in 2001. I have extensive experience in the numerical modelling and seismic analysis of structures using commercially available FEA software. I have worked on this area of research during my appointment in Bangladesh and I was involved actively as a researcher with the “Earthquake Research Center’ of Chittagong University of Engineering and Technology.

I have extended the research in the area of seismic analysis and design of bridge, building and transmission tower structures at University of Sherbrooke. In this university, I worked as a leader of a research team and guided/supervised few Masters and PhD students to support my host professor. I have also worked with the international interns and helped them in completing their research.

At Thompson Rivers University, I am continuing my research based on the facilities available within the faculty and University. I have worked on Dynamic performance on Composite floor and published one article from my research. Also, I am working on the ***teaching related research*** and publishing & presenting my findings in various conferences and seminars.

If brief, my research plan will be by utilizing my expertise and research experience:-

- To continue my research in the areas of my research interest as indicated above and in my CV.

- To identify critical research areas based on local demands in line with my areas of expertise, and to seek local industrial collaboration.
- To attract internal and external funds to conduct the research activities.
- To join inter disciplinary research group to enhance the on-going research activities within the faculty.
- I have great interest in excelling new areas of research and would be able to contribute to the research activities of the university.

The ultimate goal of my research will be the use of research outcomes for the sustainable development of infrastructures.