

OPTIMIZATION SEMINAR SERIES

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Time: Wednesday – September 30, 2015
1:00 – 1:50 pm

Location: B660

Title: Design Structure Matrix: Models, Applications and Data Exchange Format

Abstract:

A Design Structure Matrix (DSM) is much more than an adjacency matrix representation of a network. The design and analysis of complex engineered systems can be greatly aided by tools that can capture, organize and represent interactions among systems' elements. It is a tool that can be used to represent a system's design structure in a visually appealing manner. The DSM research over the last 3 decades have produced important analysis techniques that have been applied to a variety of projects. Many real world examples of DSM matrices remain scattered in the literature. Recently, the book by Eppinger and Browning has compiled 44 DSM examples from diverse areas; and we have discovered that most of these examples are not in easily retrievable digital form.

Thus, we proposed a new exchange format "Design Structure Matrix Data Exchange (DSMDE)" as a common file format to promote reliable and efficient exchange of Design Structure Model (DSM) and MDM (Multi-domain Model) data. It is an extension of the widely used "Matrix Market (MM)" file format (for the exchange of sparse and dense matrices data). At present there does not exist a common standard for sharing DSM/MDM data. We believe that a standardized exchange format will greatly facilitate research and development of DSM modelling techniques by making data widely available than currently possible. Thus, the DSMDE is expected to be a standard way to share DSM/MDM data among researchers, practitioners, and on different computing environments.

Everyone is welcome.

Graduate students are encouraged to attend.

The announcement is also available at

<http://www.cs.uleth.ca/~benkoczi/wordpress/?p=523>