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**Conceptual Design of Bridge Structures**

*Monday, February 11<sup>th</sup>, 2019*  
*Cymer Conference Room 248, SME Building*  
*Agenda*

- 1:30pm **Part 1: Main Bridge Types, Concrete Segmental Bridges, Foundation Types**
- 2:05pm Questions and Answers on Part 1
- 2:40pm Break
- 2:55pm **Part 2: Design Process**
- 3:20pm Questions and Answers on Part 2
- 3:50pm Break
- 4:05pm **Part 3: Project Case Studies**
- 4:40pm Question and Answers on Part 3
- 5:10pm Reception
- 5:45pm **Lecture : Major Project Case Studies, Bridge Aesthetics, Lessons Learned**

**Abstract**

The design of a major bridge requires several steps: conceptual, preliminary and final phases. The engineer relies on his or her knowledge of strength of materials and complex analysis programs during the final design phase. These tools are acquired during the years spent in school. The conceptual design phase requires a different set of skills that are not necessarily taught in school. However, the decisions made at the early stages of the design are essential as they will influence heavily the detailed design process and quality of the completed project. This presentation includes a summary of different structure types that can be considered for a new project, a description of the conceptual design process, and case studies for several unique bridge projects. Bridge aesthetics should also be kept in mind when developing design concepts because the structures we design must fit in the environment for a long time. In summary, even though we learn all the design tools in school, it is only after working on actual projects that we really learn to be a bridge engineer. Each major bridge project requires a different design depending on local conditions and specific design criteria. This is the reason why the profession of bridge engineer is so attractive.

**Biography**

Daniel Tassin is Senior Technical Officer at SYSTRA, a world leader in the field of transportation infrastructure. Prior to joining SYSTRA, he was President of International Bridge Technologies (IBT), a firm dedicated to bridge engineering, with its main office in San Diego. He has 45 years of comprehensive experience in the design and construction of bridges in the U.S., Mexico, Canada, Europe, and Asia. He has supervised the design and/or construction of numerous major bridge projects, including segmental and cable supported structures. Mr. Tassin received an Advanced Degree in Prestressed Concrete Structures at "Centre des Hautes Etudes de la Construction" (CHEC) in Paris, France in 1972 and his Civil Engineering Degree from "Ecole Supérieure des Travaux Publics" (ESTP) in Paris, France in 1971. He is a registered professional engineer in California and twelve other US States and Canadian Provinces. In 1997, he was awarded the ASBI Leadership Award, for "Exceptional Contributions to the Development and Application of Segmental Design and Construction Technology in Major Bridge Projects". He is a Member of the National Academy of Engineering (NAE).