

## Department of Systems Engineering and Engineering Management

### Seminar Series

## **An Overview on the Quantification Strategies of Human Error Probability in HRA Methods**

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Date	1 August 2018 (Wednesday)
Time	10:30am - 11:30am
Venue	P7301, 7/F, Yeung Kin Man Academic Building

### **Abstract**

Human-induced accidents has been increased with the increasing complexity in the industrial systems. The relative studies in human reliability analysis (HRA) tended to identify the human errors in the industrial operations and make quantifications on these errors. In most HRA methods, the human error probability (HEP) is taken as the basis for evaluating the human performance in a specific task context and such a probability can be viewed as a likelihood value for the potential human failure in the operations. The typical way for quantifying HEP is based on the qualitative analysis of human factors and task context, and is further refined by performance shaping factors (PSFs). The necessary processes in HEP quantification includes the selection of PSFs, the evaluation of PSFs, and the quantification strategy of HEP. With reviewing the three major quantification strategies used in HRA methods, it provides insights into the task context's influences on human behaviors and the general pattern for quantifying the HEP with PSFs in HRA.

## About the Speaker

**Dr. Xing Pan** received the B.S. degree in mechanical engineering, and the Ph.D. degree in systems engineering from Beihang University (BUAA), Beijing, China, in 2000 and 2005, respectively. From 2005 to 2009, he was an Assistant Professor with the School of Reliability and Systems Engineering, Beihang University, Beijing, China. Since 2009, he has been an Associate Professor. From 2012 to 2013, he was a visiting scholar at the Department of Systems and Industrial Engineering, University of Arizona, Tucson, USA. He has published more than 40 papers in the area of systems engineering, reliability engineering and risk analysis, and human reliability analysis. His research focuses on topics related to the fields of systems engineering (SE), especially SE technologies applied in engineering practice, including reliability engineering, risk management, human reliability analysis, information system, and knowledge management. Moreover, complexity of systems, networks, system of systems (SoS) and SE practices in China are also interest to him.

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***All are Welcome!***