Amsterdam University of Applied Sciences

MASTER CLASS RISK ASSESSMENT

BASED ON LEVESON'S STAMP MODEL AND STPA TECHNIQUE

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Have you ever been surprised by complexity? Results that were not predictable due to interactions that you hadn't identified? More importantly: do you want to improve your system and become better prepared next time? Then this master class in risk assessment based on STPA is for you.

The Amsterdam University of Applied Sciences is proud to present a master class based on the System Theoretic Process Analysis (STPA). STPA is a technique developed in 2011 by Prof Nancy Leveson (Massachusetts Institute of Technology, USA), and is grounded on the System Theoretic Accident Model and Processes (STAMP). The goal of STAMP/STPA is to make the effects of complexity in socio–technical systems more understandable, thus better managed. The superiority of STPA over traditional means of hazard identification have been well publicized over the past years.

In this highly interactive, demanding and challenging master class you will be introduced to systems thinking and you will learn how to apply STAMP/STPA to various areas such as safety, quality and production.

APPROACH

The master class will include discussions about the theory, application to well-known and lesser-known cases, and ample room for reflection on your own practice. Each step of STAMP/STPA will be complimented with tips to help you cope with potential difficulties during application.

In order to hold discussions based on a solid understanding of the theory, we ask you to read Leveson's book "Engineering a Safer World" (MIT Press, 2011) beforehand, which can be downloaded at **mitpress.mit.edu/books/engineering-safer-world** or bought through the normal channels. The number of attendees has been limited to ensure a lively discussion and excellent group sessions.

PROGRAM

The following subjects will be addressed:

- Strengths and weaknesses of widely used hazard analysis and risk assessment models (e.g., FTA, HAZOP, FMEA, risk matrices, bow-tie).
- Introduction to STAMP and STPA: Fundamental definitions and preparatory steps.
- STPA Step 1: Generation of list of system hazards and 1st set of requirements.
- STPA Step 2: Identification of causal factors contributing to system hazards and generation of a 2nd set of requirements. Development of test scenarios.
- Risk assessment process following hazard identification.
- Demonstration of a freeware software supporting the implementation of STAMP/STPA.
- Experiences and results from the application of STPA in actual practice – guest speaker from the industry.

PARTICIPANT PROFILE

This master class is aimed to safety professionals, risk analysts, engineers, managers and any practitioner involved in risk assessments within complex socio-technical systems. Students and academic staff are also welcome as they will benefit by the theoretical and practical parts of the master class. Some work experience in hazard identification and risk assessment is preferable to enable fruitful participation in group discussions.

WORKSHOP LEADERS

Dr. Nektarios Karanikas is Associate Professor of Safety and Human Factors at the Amsterdam University of Applied Sciences since September 2014. He holds a doctorate in Safety and Quality Management (Middlesex University, UK) and an MSc in Human Factors and Safety Assessment (Cranfield University, UK). Nektarios has (co)authored several papers in the areas of Safety and Human Factors and has applied STPA in small-drone operations, military flight training and evaluation of Safety Management Systems. Since 2015, he has been delivering training in STPA to the industry as well as to students of the Aviation Academy

Dr. Robert J. de Boer is Professor of Aviation Engineering at the Amsterdam University of Applied Sciences since September 2009. He holds a PhD in Cognitive Engineering (Delft University of Technology, NL) and has initiated and developed team collaboration in technical environments in a variety of line management and consultancy roles. These experiences inspired his current scientific interest in organizational safety and process improvement. Robert has authored numerous peer-reviewed conference proceedings and journal articles.

PRACTICALITIES

The program runs for five full days from Monday until Friday; the program times are 9:00 to 17:00 (until 15:00 on Friday). The registration fee is €1890. The early-bird fee is €1700 until the 19th of November 2017. All lunches, welcome drinks on Monday and a team dinner on Thursday are included in the fee. The location is Hotel Casa in Amsterdam.

INFORMATION AND REGISTRATION

For registration and more information please visit our website **amsterdamuas.com/mcra.** With further questions please contact Ms. Gieta Inderdjiet at **g.m.inderdjiet@hva.nl**, +31 (0)20 595 1361.

ABOUT THE AVIATION ACADEMY

The Aviation Academy performs practical scientific research related to real-life cases and problems in the industry, focusing on safety & human factors, MRO process improvement, composites and aviation capacity. Our goal is to improve and innovate professional practice. We perform all of our research projects in close cooperation with industry, governmental agencies, scientific institutions and other universities. This ensures a solid connection with state-of-the-art scientific knowledge, as well as a focus on the most urgent and current problems and challenges on the shop floor.

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TESTIMONIALS FROM AVIATION ACADEMY COURSES & EVENTS

"Well done Dr. Karanikas! I continue to be impressed by your work and in particular by closing the gap between research and the real world application of safety across various industry verticals. We can learn much from your leadership in Europe. Thank you for sharing your resources. (Mike Harnett, SIX Safety Systems)

Robert-Jan, thank you for your clear explanations, the excellent way of giving this course and monitoring the time effectively. It made me feel enthusiastic and inspired me to continue with this topic. Due to your wise words I have gained new insights, thanks!
(Rob Niels, KLM)

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