

The website of the 2<sup>nd</sup> ESW in Stuttgart is not accessible anymore. In consultation with the host we make it therefore available through this document and its associated files.

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## ESW 2014: The Second European STAMP Workshop 2014

Traditional system safety approaches are being challenged by the introduction of new technology and the increasing complexity of the systems we are attempting to build. STAMP is a new systems thinking approach to engineering safer systems described in Nancy Leveson's new book "Engineering a Safer World" (MIT Press, January 2012). While relatively new, it is already being used in space, aviation, medical, defense, nuclear, automotive, food, and other applications. STAMP (Systems-Theoretic Accident Modeling and Processes) is a new accident causality model based on systems theory and systems thinking described in Nancy Leveson's new book "Engineering a Safer World." STPA (System-Theoretic Process Analysis) is a powerful new hazard analysis technique based on STAMP while CAST (Causal Analysis using System Theory) is the equivalent for accident/incident analysis. STAMP is a new accident causality model based on systems theory and systems thinking. Detailed descriptions and applications can be found on Prof. Nancy Leveson's website: <http://sunnyday.mit.edu/>. In particular her book "Engineering a safer world" is recommended.

The target of STAMP is the integration of new causal factors such as human-decision making, organizational design in the hazard analysis. STAMP is divided into two parts. Whereas STPA is a hazard analysis technique based on STAMP, CAST is the equivalent for the accident/incident analysis technique.

After the success of the first European STAMP workshop at TU Braunschweig in 2013 and the response for the first workshop was overwhelming, we have decided to continue the series in Stuttgart. The format for the second workshop will expand on the first and have advanced tutorials, birds of a feather sharing among those in the same industry, presentations of experiences/lessons learned/challenges in using STAMP/STPA/CAST, research papers, and perhaps some panels, small working groups and poster session. The second STAMP workshop is planned to be held in conjunction with INFORMATIK 2014 at the University of Stuttgart. The 44th annual meeting of the GI will take place from 22 to 26 September 2014 in which will be conducted workshops, tutorials, scientific and practical conferences on the campus of university.

Notice: ESW2014 is not the workshop 2014 IEEE IAS Electrical Safety Workshop  
<http://www.ewh.ieee.org/cmte/ias-esw/ESW2014.html>

## Workshop Objectives

The objective of the second European STAMP workshop is to further establish a platform for the exchange of ideas, experiences, discussion, co-operation and dissemination in the application of STAMP and related methods. The workshop aims to bring together researchers and safety practitioners from different areas who are interested in improving their approaches to system safety and who are already trying STPA/CAST to share their experiences and provide direction for future research, and to encourage the use of STAMP techniques in real systems in industry. Furthermore, we would like to provide opportunities for informal group discussions included in the program to discuss the evaluation of the application of STAMP in academic and industry projects.

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## Workshop Topics

The main topics of the Workshop include, but are not limited to:

- Experiences using STPA and CAST
- Safety-guided design using STPA
- Accident analyses
- Certification and regulatory issues
- Evaluations and comparisons with traditional techniques
- Risk management and identifying leading indicators
- Using STPA/CAST for software-intensive systems
- Applications to security
- Tools, processes, and other support for analysis and design using STPA and CAST
- Safety management systems
- Management and adoption experiences or challenges

## Workshop Tutorials

The tutorials which you can attend and pick one of them during the ESW 2014 workshop are:

- Introduction to STAMP, STPA, and CAST (Prof. Leveson)
- Advanced STPA Tutorial (John Thomas, MIT)
- Applying STPA to the Automotive Domain Tutorial (Asim Abdulkhaleq)
- CAST Tutorial (TBA)
- STPA-Sec Security Tutorial and Exercises<sup>2</sup> (Bill Young, MIT)
- Experienced Users Meeting (Rene' Hosse, TU Braunschweig)

## Workshop Chairs and Programme Committee:

### Workshop Chairs

- Stefan Wagner, University of Stuttgart
- Eckehard Schnieder, TU Braunschweig

### Programme Committee

- Jens Braband, Siemens
  - Tim Kelly, University of York
  - Nancy Leveson, MIT
  - Bernd Müller, Robert Bosch GmbH
  - Jörg Müller, Bombardier
  - Lorena Pelegriñ, ILF
  - Eelco Vriese, University of Twente
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## Location

The workshop will be held in the building Universitätsstr. 38 and building Pfaffenwaldring 7, campus Vaihingen, University of Stuttgart

Address: Institute of Software Technology (ISTE)  
Street: Universitätsstraße 38  
ZIP: 70569 Stuttgart, Germany

Coming from the city: Take the subway from the station "Hauptbahnhof", "Stadtmitte" or "Feuersee" S1 (Herrenberg), S2 or S3 (both Flughafen) and get off at "Universität".

Coming from the Airport (Flughafen): Take the subway S2 (Schorndorf) or S3 (Backnang) and get off at "Universität". Parking is available for free outside the institute.

If you do not find the location, call ++49 (0)711/685-88355 (Workshop Secretariat) or +49 711 685-88 458 (Contact Person: Asim)

## Contact

If you have questions or suggestions, please do not hesitate to contact the organization committee:

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## Important Dates

Tuesday, 06.May 2014: Extended abstract Submission (up to 3 Pages)

Thursday, 29 May 2014 Notification of Acceptance

Monday, 23 June 2014: Camera-Ready Submission

Monday and Tuesday, 22-23 September 2014: Workshop Presentations

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## Workshop Program

Day 1: Monday, 22.09.2014

Registration: Universitätsstrasse 38 from 7:30 until end of day

Locations: Room 7.01 at Pfaffenwaldring 7  
Room 0.457 at Universitätsstrasse 38  
Room 0.447 at Universitätsstrasse 38

Time	Event	Room
8:45 - 9:00	Welcome <i>Stefan Wagner, University of Stuttgart</i>	7.01
9:00 - 10:00	Introduction to STAMP, STPA, and CAST <i>Nancy Leveson, MIT</i>	7.01
9:00 - 10:00	Experienced Users Meeting (adoption challenges, research needs, shared Experiences, etc.) <i>Cody Fleming, MIT</i>	0.363
10:00 - 10:30	Break	-
10:30 - 12:00	STPA Tutorial and Exercises <i>John Thomas, MIT</i>	7.01
	STPA in Automotive Domain Tutorial <i>Asim Abdulkhaleq, University of Stuttgart</i>	0.447
	STPA-Sec Security Tutorial and Exercises <i>Bill Young, MIT</i>	0.457
12:00 - 1:30	Lunch	-
1:30 - 3:00	STPA Tutorial and Exercises <i>John Thomas, MIT</i>	7.01
	STPA in Automotive Domain Tutorial <i>Asim Abdulkhaleq, University of Stuttgart</i>	0.447
	STPA-Sec Security Tutorial and Exercises <i>Bill Young, MIT</i>	0.457
3:00 - 3:30	Break	-
3:30 - 4:00	Application of STAMP to Improve the evaluation of safety management <i>Robert J. de Boer, Amsterdam University of Applied Sciences</i>	7.01
4:00 - 4:30	Use of STPA in digital instrumentation and control systems of nuclear power plants <i>Martin Rejzek, Zurich University of Applied Sciences</i>	7.01
4:30 - 5:00	Preliminary hazard Analysis of a Track and Trace Software Tool using System Theoretic Process Analysis <i>Geert Roelf Kleve, University Medical Centre Groningen</i>	7.01
5:00 - 9:00	Dinner buffet Tool Demo: New Improvements to A-STPA tool support for STPA <i>Asim Abdulkhaleq, University of Stuttgart</i>	2.013

## Day 2: Tuesday, 23.09.2014

Registration: Universitätsstrasse 38 from 7:30 until end of day

Locations: Room 7.01 at Pfaffenwaldring 7

Time	Event	Room
9:00 - 9:30	Using STAMP to develop Leading indicators <i>Nancy Leveson, MIT</i>	7.01
9:30 - 10:00	Utilizing STAMP to define the First-into-Man system for medicines <i>Brian Edwards, ACRES</i>	7.01
10:00 - 10:30	Break	7.01
10:30 - 11:00	Model-based Concept Development and Safety Driven Design <i>Cody Fleming, MIT</i>	7.01
11:00 - 11:30	Developing systematic techniques to identify control flaws using System-Theoretic Process Analysis <i>John Thomas, MIT</i>	7.01
11:30 - 12:00	Investigating Safety and Cybersecurity Tradespace Concepts for Manned-Unmanned Aerial Systems Integration using STAP [paper PDF] <i>Kip Johnson, MIT</i>	7.01
12:00 - 1:30	Lunch	7.01
1:30 - 2:00	Evaluating Systems with Multiple Process using STPA <i>Aubrey Samost, MIT</i>	7.01
2:00 - 2:30	Applying STAMP to safety standards of mowing robots <i>Eleftheria Mitka, Democritus University of Thrace</i>	7.01
2:30 - 3:00	Applying STAMP/STPA to Human Safety System for Four Wheel Drive-Train <i>Yasuhiko Kawabe, Tatsuya Yanagisawa, Chunyao Chuang, Aiste Lastauskaite, UNIVANCE Corp.</i>	7.01?
3:00 - 3:30	Break	7.01
3:30 - 5:00	Group Discussion	7.01