ESWC
European STAMP Workshop and Conference

CATAPULT High Value Manufacturing

WMG THE UNIVERSITY OF WARWICK

2021

European System Theoretic Process Analysis Workshop and Conference (ESWC)

— 19 & 20 October 2021 —

MODERATOR:

Dr Siddartha Khastgir, Head of Verification & Validation of CAV at WMG, University of Warwick, UK

Dr Siddartha Khastgir is the Head of Verification & Validation of CAV at WMG, University of Warwick, UK, leading various Collaborative R&D projects with industrial & academic partners. His research areas include test scenarios generation, safety, use of simulation for testing among many others. He represents the UK on various ISO Technical Committees and is the lead author for new ISO standards for Low-Speed Automated Driving (LSAD) systems (ISO 22737) and Taxonomy for ODD (ISO 34503). He is also the technical author for BSI PAS 1883 and also a member of the steering groups for the BSI PAS programme.

SPEAKERS:

Professor David Greenwood, WMG, University of Warwick, UK

David Greenwood is Director for Industrial Engagement, and CEO of the High Value Manufacturing Catapult at WMG. Previously, David established and led the Energy Directorate at WMG where he led a team of over 200 researchers and engineers. Projects spanned a number of fields, including cars, trucks, boats, off highway machinery, aircraft and motorcycles. His research spans batteries, electric motors, power electronics, and the integration and control of these for propulsion and energy applications.

Professor Nancy Leveson, Massachusetts Institute of Technology, USA

Nancy Leveson is Professor of Aeronautics and Astronautics at MIT. She is an elected member of the National Academy of Engineering (NAE). Prof. Leveson conducts research on the topics of system safety, software safety, software and system engineering, and human-computer interaction. She has received many awards for her work including the IEEE Medal for Environmental and Safety Technologies, the ACM Allen Newell Award for outstanding computer science research and an AIAA Information Systems Award for "developing the field of software safety and for promoting responsible software and system engineering practices where life and property are at stake." She has published over 400 research papers and is author of two books, "Safeware: System Safety and Computers" published in 1995 by Addison-Wesley and "Engineering a Safer World" published in 2012 by MIT Press. She consults extensively in many industries on the ways to prevent accidents.

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Dr John P. Thomas, Executive Director, Engineering Systems Laboratory, Safety and Cybersecurity Group, Massachusetts Institute of Technology, USA

Dr. Thomas's work involves developing systems approaches to engineering and analysis including Systems Theoretic Process Analysis (STPA), including the formal underlying structure that can be used to help ensure potentially hazardous or undesirable software behaviors are systematically identified and controlled. He has also developed algorithms to automatically generate formal executable and model-based requirements for software components as well as methods to detect flaws in an existing software specification. The same process can be applied to address security and functional goals of the system, thereby permitting the automated detection of conflicts between these and other goals during early development processes.

Jon Arne Glomsrud, Principal Researcher at DNV, Norway

Research in the field of analysis and verification of complex Cyber-Physical Systems. System analysis methods for safety and security, simulation based verification of autonomous functions. Implementation of such methods into maritime class rules for surface vessels, and in Technology Qualification processes for oil and gas applications. Assurance methods for advanced algorithms (data-driven AI and ML). Assurance of digital assets and technologies is now the main work.

Meriam Chaal, PhD Candidate at Aalto University, Finland

Meriam Chaal is a doctoral candidate in risk assessment of autonomous ships at Aalto University, Finland, and a member of the advisory board for "Marine Digital" company in Germany. She received her master's degree is Ship Machinery Operation from the Tunisian Navy in 2012 and another Master degree in Maritime Safety and Environmental Administration from the World Maritime University, Sweden in 2018. She has 5 years of experience as Engineer Officer (Seafarer) on-board large passenger ships of the Tunisian Navigation Company (COTUNAV).

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Natalia Silvis, Lecturer at Vrije Universiteit, Netherlands

Natalia Silvis-Cividjian is lecturer in the Computer Science department at the Vrije Universiteit in Amsterdam. She holds a degree in computer engineering and a PhD in applied physics. She is currently teaching Pervasive Computing and Software Testing. She is the author of "Pervasive Computing-Engineering Smart Systems", a textbook for computer science undergraduates. She is teaching STAMP to her students and tries to apply it in practice as much as possible. Examples are radiation therapy, railway safety management and most recently, campus safety networks.

Paul Albertella, Consultant at Codethink, UK

Paul Albertella is a consultant at Codethink, with more than 30 years of experience in the automotive, semiconductor and mobile device sectors.
He's passionate about software engineering processes and the role that open source software and communities are playing in their evolution. His current focus is on safety and the use of Linux and open source tools in automotive. He is a certified functional safety practitioner and a member of the technical steering committee for the ELISA project (Enabling Linux in Safety Applications).

Professor Shigeru Kusakabe, University of Nagasaki, Japan

Shigeru Kusakabe is a professor at Department of Information Systems at the University of Nagasaki, Japan. Once he worked on rigorous formal specification but his interests shifted from rigorous formal modelling approaches to more comprehensive and effective ones, like STAMP. He organized the first STAMP workshop in Japan with IPA, Information-technology Promotion Agency. The workshop in Japan will be held the beginning of December this year.

Shufeng Chen, Project Engineer - Intelligent Vehicles at WMG, University of Warwick, UK

Shufeng is a project engineer at WMG, University of Warwick. His research focuses on system safety, system engineering, human factors, and verification and validation methods in safety.

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José Corrêa de Sá, Independent Consultant, Portugal

Corrêa de Sá {IPA: Kor'eaðe 'saa} is an Aerospace Engineer, expert in Aviation Safety and Airworthiness and (Gestlat) System Thinking, with experience in the Aerospace, Defence, Aviation, and Transportation industries; and Academia. His research interests are, among other things, related to Ethics, in particular, Ethics applied to Engineering and Safety, Competence, in particular, Competence applied to Engineering and Safety, and System Thinking applied to Political Systems, in particular, Education and Judicial.

Apostolos Zeleskidis, PhD Candidate, Researcher at Democritus University of Thrace, Greece

Apostolos Zeleskidis is a Phd researcher in the Democritus University of Thrace (Xanthi, Greece) who works to merge mathematical tools with system safety.

Gabriel Oliveira, Systems Safety Engineer at AEL Systems, Brazil

Gabriel Oliveira is Systems Safety Engineer who works in the Aerospace and Tactical Communication area. He has been working in the development of STAMP applications with focus on the cyber security area.

Amanda Iriarte Quilici,
Systems R&D Coordinator and Program Safety Manager at AEL Systems, Brazil