

Editorial to the 2024 Winter Issue

Welcome to the first issue of the third volume of the Safety-Critical Systems eJournal, published by the Safety-Critical Systems Club (SCSC) with Publication Number SCSC-191. This is a themed issue, published to coincide with the Safety-Critical Systems Symposium, SSS'24. The theme is the technologies underpinning autonomous vehicles and how we assure them. The original brief was broad: *for example "technologies", as well as vision processing, machine learning, etc., can include things like concepts of operation, regulation, standards, ownership of liability, and so on.* Note that autonomous systems are influenced by human factors too.

When preparing an issue of the journal, it is expected that delays will occur due to illness or busy times for one or two of the authors and/or reviewers. This time the schedule was disrupted by the majority being ill or busy when needed; I hope everyone is fully recovered now. The plan to have three issues this year, as proposed in the previous issue, has had to be shelved; there will be two, but with more papers. Note that one of the papers originally scheduled for this issue has had to be delayed to the next issue; in its place we have a paper delayed from the previous issue...

This issue contains four papers:

- Philip Koopman and William H. Widen (USA) address what may be “safe enough” for automated vehicle technology in “*Breaking the Tyranny of Net Risk Metrics for Automated Vehicle Safety*”. They consider legal, regulatory, ethical and equity aspects as well as risk metrics and industry standards conformance. This paper is the basis of a keynote speech on Day 3 of SSS'24.
- Peter Ladkin (Germany) applies Conceptual Analysis to electrotechnical terminology in “*Principles of Conceptual Analysis for Electrotechnical Terminology (ConcAn)*”. He develops some principles and applies them to definitions from the International Electrotechnical Vocabulary, IEC 60050 (www.electropedia.org). This is a companion paper to that on semantic analysis, SemAn, in Issue 1 of Volume 2.
- Michael Wagner (USA) and Carmen Carlan (Germany) present “*The Open Autonomy Safety Case Framework*”. Developed over several years of work with the autonomous vehicle industry, their framework brings strategies, argument templates, and guidance together to support the development of a safety case for autonomous vehicle deployment.
- Jonathan (Jon) Wiggins (UK), in “*Human Factors in Functional Safety Assessment — Assessment of Human Interactions and Behaviour*”, proposes a method to assess the impact of human factors and behaviour upon design, execution, and maintenance of a Functionally Safe System; it is presented as a framework that will be tailored for specific applications.

My thanks go to the authors for contributing their papers, and also to the anonymous peer-reviewers (at least three per paper) for suggesting improvements. Apologies also to those reviewers who made some recommendations that were not taken up.

The new cover image for this year includes logic, emergent properties, and machine learning motifs to mark the launch of the Club's new Working Group, Safe AI. Joining instructions will be announced at SSS'24. If you would like to find out more about this group, please go to their page on the SCSC website: <https://scsc.uk/gb>

John Spriggs, SCSC Journal Editor
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