CBSOFT'26

CONGRESSO BRASILEIRO DE SOFTWARE

September 8 - 11, São Paulo - SP

PROCEEDINGS

14th Workshop on Software Visualization, Evolution, and Maintenance (VEM 2026)

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Preface

The Proceedings of the 14th Workshop on Software Visualization, Evolution, and Maintenance (VEM 2026) present the papers selected and presented at the edition of the event held on September 11, 2026, in São Paulo, Brazil, in conjunction with the 17th Brazilian Congress of Software: Theory and Practice (CBSoft 2026). This edition of the proceedings includes 26 full papers and 6 short papers. These papers were selected through a double-blind peer-review process from a total of 64 reviewed submissions, resulting in an acceptance rate of 50%. The workshop's Program Committee was co-chaired by Aline Brito (UFOP) and Lucas Vegi (UFV), who organized this volume together with Vânia Neves (UFF), Everton Cavalcante (UFRN), Silvana Morita (UFGD), Heleno Campos (UFF), and Arthur Pilone (IME-USP), the CBSoft 2026 Publication Chairs. The papers included in these proceedings were submitted on July 10, 2026, accepted for publication on August 3, 2026, and had their final versions submitted on August 10, 2026.

Keynote



Rethinking Software Maintenance in the Age of AI
Marcos Kalinowski - PUC-Rio, Brazil

Abstract. *Generative AI is rapidly moving Software Engineering from coding assistance toward agents capable of understanding repositories, planning changes, modifying artifacts, and verifying solutions. This shift invites us to rethink what software maintenance means when changes are increasingly performed through human–AI collaboration and autonomous agents. In particular, we discuss a triad of debts that is relevant in this new landscape: Technical Debt, related to the quality and sustainability of software artifacts; Cognitive Debt, associated with the loss or insufficiency of human understanding of systems increasingly modified with AI support; and Intent Debt, arising from the difficulty of preserving and recovering the motivations, decisions, constraints, and goals behind those changes. The keynote also discusses context as a new maintenance artifact and presents challenges for the effective and safe evolution of software through human-AI collaboration and increasingly autonomous agents.*

Short bio. Marcos Kalinowski is a Professor of Software Engineering at PUC-Rio, Brazil, where he leads the Software & AI Engineering Lab (SAIL), supervises doctoral research, and conducts R&D projects in collaboration with industry partners. His research focuses on AI Engineering, AI-Augmented Software Engineering, Empirical Software Engineering, and Human Aspects of Software Engineering, resulting in industry-adopted solutions, patents, and more than 200 scientific articles, mostly published in top-tier venues. This body of work has achieved significant international visibility, positioning him as the most cited software engineering scientist in Latin America in 2024, 2025, and 2026. Throughout his career he received over 20 distinguished paper awards, including ACM Distinguished Paper Awards at ICSE,

CAIN, and CHASE. He holds a research productivity fellowship from the Brazilian Research Council (CNPq), a "Scientist of the State" distinction from the Rio de Janeiro state (FAPERJ), and is a fellow of the Kunumi Institute. Marcos has held several prominent leadership roles in the international software engineering research community, including the roles of PC chair of ESEM, Chair of the ISERN, and General Chair of ICSE. He serves the research community as an Associate Editor of IEEE Software, IEEE Transactions on Software Engineering, Empirical Software Engineering, and the Journal of Systems and Software. He is an active member of ACM, IEEE, ISERN, and the Brazilian Computer Society.